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Capitalization Rate Study

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Lien Date 2011

Executive Summary

“The income approach to value includes any method of converting an income stream into a present value estimate (i.e., an indicator of current fair market value). The income approach is also called the capitalization approach because capitalization is the process of converting an expected income into an indicator of value.

The methods or techniques used in the income approach may be relatively simple (e.g., income or rent multipliers and direct capitalization), or more complex (e.g., various yield capitalization techniques). All of these methods are referred to as capitalization techniques because they convert an expected future income stream into a present value estimate.

The income approach requires careful application because small variations in its key variables (capitalization rate, duration of income stream, estimated income and expenses, etc.) will be mathematically leveraged into a wide range of estimated value. This is particularly true for the capitalization rate variable. The reliability of the income approach is no greater than the validity of the assumptions used to estimate the key variables. The mathematical techniques used in the approach, while sometimes complicated, are merely tools for converting these assumptions into an estimate of current market value.”¹

I. Authority for Capitalization Rate Study

Property Tax Rule 8 (g) (2) provides the authority for the method in which the capitalization rates were developed in this study. The rule states “the capitalization rate may be developed...

By deriving a weighted average of the capitalization rates for debt and for equity capital appropriate to the California money markets (the band-of-investment method) and adding increments for expenses that are excluded from outgo because they are based on the value that is being sought or the income that is being capitalized. The appraiser shall weight the rates for debt and equity capital by the respective amounts of such capital he deems most likely to be employed by prospective purchasers.”

II. Band of Investment Approach

In its simplest form, the band of investment method assumes that a purchaser would pay cash (or equity) for a portion of the property and would borrow the balance of the purchase price. For example:

Debt	30%	x	Cost of Debt	7%	=	2.1%
Equity	70%	x	Cost of Equity	12%	=	8.4%
Weighted Average Cost of Capital						<u>10.5%</u>

¹ Assessors’ Handbook 501, Basic Appraisal, Revised January 2002

Executive Summary

This booklet contains a study for each of the major state assessee industry groups² in California. Industry data was compiled by groups with similar Value Line financial ratings. Local exchange, wireless and interexchange industries have been combined into one telecommunications study.

Generally accepted procedures were used to estimate the cost of capital for debt and equity. The long term debt cost is the cost for a particular risk class of debt on the lien date. The equity rate reflects the rate of return or compensation that will satisfy the risk that a prospective purchaser would anticipate if a property purchase decision was made. The rates chosen are the result of analysis of economic conditions and financial data listed in the supporting schedules and are the product of the staff's informed judgment.

The rates derived in this study are basic capitalization (or discount) rates that represent the after-tax return on investment only. Any increments required to be added by Property Tax Rule 8(g)(2), such as income or ad valorem tax components, are in addition to the rates listed.

A. *Capital Structure - Prospective Purchaser vs. Company Specific*

State assessees often ask why the Board does not use the current capital structure of individual companies in the band-of-investment method. As explained in Rule 8 (g)(2), the appraiser shall weight the rates of debt and equity capital by the respective amounts of such capital deemed most likely to be employed by a prospective purchaser.

Therefore, the capital structure contemplated is a representative or typical structure of an industry group of companies with a similar bond rating, not that of the present owner. The objective of doing so is to strike an optimum capital structure from the perspective of a potential investor.

B. *Company Specific Debt Rates*

In many cases the debt component of the capital structure for a prospective purchaser and the individual company being assessed may be similar. In cases where, in the judgement of staff, the debt ratings of the individual companies being assessed and the debt ratings of prospective purchasers are similar, the company-specific bond rating has been used to develop the appropriate debt component of the recommended capitalization rate.

C. *Impact of Holding Companies on Determination of Capital Structure*

Many of the larger state assessees are subsidiaries of their holding company. Stock purchases related to a subsidiary must be made through the parent holding company. Since there is no direct market data for state assessees that are subsidiaries of a holding company, staff must rely, in great part, upon market data related to the holding company.

² Gas, Electric & Water; Natural Gas Transmission; Electric Generation; Telecommunications (Local Exchange, Interexchange, Wireless); Pipeline; Railroad

Executive Summary

III. Capital Asset Pricing Model

The Capital Asset Pricing Model (CAPM) is a widely accepted theory used to estimate the cost of equity capital. In the application of CAPM, the most sensitive component affecting the outcome is the estimate of the beta³ coefficient. The choice of different time frames and frequencies of measurement in the calculation of the beta can produce significantly different results. Another factor in the use of beta is the choice of whether to use an unadjusted beta or a beta adjusted to reflect the fact that betas tend to revert to the mean over time. In this study, three betas were obtained from separate sources: one adjusted (Value Line) and two unadjusted. Generally the betas from the three sources are averaged to establish the beta used to estimate the cost of equity capital for a specific industry. However, the average beta for highly regulated industries, such as gas or electric transmission and distribution, tend to understate the risk inherent in those securities. Accordingly, for companies in highly regulated environments, the Value Line adjusted beta was chosen as a better estimate of the relative risk in the calculation of the required equity return.

IV. Flotation Costs

When new issues of both debt and equity capital are sold to investors, the issuing company incurs transaction costs such as underwriting fees, legal expenses, and prospectus preparation costs. These costs of issuing securities are known as flotation costs. Much like loan fees or points on a mortgage, flotation costs effectively reduce the net proceeds that a firm will receive from issuing securities. The cost of capital is adjusted upward to reflect the expected flotation costs incurred to issue securities. Since the flotation costs are reflected in the weighted average cost of capital, the flotation costs should not be allowed as expenses in projecting cash flows to be capitalized. Each basic capitalization rate in this study has been adjusted to reflect flotation costs.

V. Utilization of Other Studies and Data

Staff appraisers considered data and capitalization rate studies submitted by assessee and interested parties and, where appropriate, utilized them in the development of the staff derived rates.

The capitalization rates published in this study are intended to be applied to the unitary operations of the companies subject to assessment by the California State Board of Equalization.

³ The covariance of the returns of a security regressed against the returns of the overall market - a measurement of relative volatility

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Gas, Electric and Water Companies**

SBE No.	Company Name	Ratings			Capital Structure			Rates of Return			Basic Cap Rate
		Financial	Preferred Stock	Bond	Common Equity	Preferred Stock	Debt	Common Equity	Preferred Stock	Debt	
Gas and Electric Companies											
141	San Diego Gas & Electric Company	A	Baa1	Aa3	53%	4%	43%	11.62%	6.55%	5.60%	8.83%
148	Southern California Edison Company	B++	Baa2	A1	52%	4%	44%	12.04%	6.70%	5.67%	9.03%
135	Pacific Gas and Electric Company	B++	Baa3	A3	52%	4%	44%	11.88%	6.86%	5.91%	9.05%
146	Sierra Pacific Power Company	B	B2	Baa3	52%	1%	47%	12.30%	7.62%	6.40%	9.48%
106	PacifiCorp	Not Rated	Baa3	A2	52%	1%	47%	12.83%	6.86%	5.75%	9.44%
119	Trans Bay Cable LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
125	Terra-Gen Dixie Valley, LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
156	Atlantic Path 15, LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
163	California Pacific Electric Co., LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
185	Mountain Utilities, LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
191	Arizona Public Service Company	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
	Electric Cooperatives	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
Natural Gas Distribution and Storage Companies											
149	Southern California Gas Company	A	Baa1	Aa3	53%	4%	43%	11.33%	6.55%	5.60%	8.67%
152	Southwest Gas Corporation	B	Ba1	Baa2	52%	4%	44%	10.99%	7.01%	6.24%	8.74%
192	Alpine Natural Gas Operating	Not Rated		Not Rated	51%		49%	12.57%		6.40%	9.54%
194	West Coast Gas Company, Inc.	Not Rated		Not Rated	51%		49%	12.57%		6.40%	9.54%
121	Gill Ranch Storage, LLC	Not Rated		Not Rated	60%		40%	13.09%		6.40%	10.41%
195	Wild Goose Storage, LLC	Not Rated		Not Rated	60%		40%	13.09%		6.40%	10.41%
198	Lodi Gas Storage, LLC	Not Rated		Not Rated	60%		40%	13.09%		6.40%	10.41%
Water Company											
101	Golden State Water Company	B++		Not Rated	55%		45%	10.68%		7.38%	9.19%

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Natural Gas Transmission Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
153	Transwestern Pipeline Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
180	North Baja Pipeline, LLC	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
187	Mojave Pipeline Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
188	Kern River Gas Transmission Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
189	Standard Pacific Gas Line Incorporated	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
190	Tuscarora Gas Transmission Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
196	Questar Southern Trails Pipeline Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
197	El Paso Natural Gas Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Electric Generation Facilities**

Facility Type	Ratings		Capital Structure		Rates of Return		Basic Cap Rate ³
	Value Line Financial	Moody's Bond	Common Equity	Debt	Common Equity	Debt	
Modern Electric Generation Technology ¹	C++	B2	55%	45%	13.87%	7.83%	11.16%
Older Electric Generation Technology ²	C++	B2	55%	45%	15.97%	8.85%	12.77%

¹ Modern Electric Generation Technology - Generally high efficiency combined-cycle or simple cycle gas turbine electric generation facilities incorporating contemporary generation technologies.

² Older Electric Generation Technology - Generally older steam turbine electric generation facilities that were sold off by vertically integrated electric utilities and for which no replacements, other than for routine maintenance have been made.

³ Staff may adjust the rates stated above if the specific situation of a facility warrants an adjustment to its basic capitalization rate.

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Telecommunications Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
Local Exchange Companies								
279	Pacific Bell Telephone Company	A+	A2	70%	30%	12.04%	5.54%	10.09%
201	Verizon California, Inc.	A+	A3	70%	30%	12.04%	5.71%	10.14%
284	Citizens Telecommunications Co. of California, Inc.	B	Not Rated	65%	35%	12.30%	6.20%	10.17%
294	SureWest Telephone	C+	Not Rated	65%	35%	12.30%	6.20%	10.17%
	Other Local Exchange Companies	Not Rated	Not Rated	65%	35%	13.35%	6.36%	10.90%
Wireless Companies								
2606	AT&T Mobility LLC ¹	A+	A2	70%	30%	11.52%	5.71%	9.77%
2532	Los Angeles SMSA Ltd., Partnership	A+	A3	70%	30%	11.52%	5.71%	9.77%
2552	Fresno MSA Limited Partnership	A+	A3	70%	30%	11.52%	5.71%	9.77%
2559	Cellco Partnership	A+	A3	70%	30%	11.52%	5.71%	9.77%
2748	T-Mobile West Corporation	B++	Not Rated	65%	35%	12.57%	6.36%	10.39%
2733	MetroPCS California, LLC	B	Not Rated	65%	35%	12.57%	6.36%	10.39%
2720	Sprint Telephony PCS, L.P.	C++	Ba3	65%	35%	14.14%	6.68%	11.53%
	Other Wireless Companies ²	Not Rated	Not Rated	55%	45%	16.23%	8.19%	12.61%
	Wireless Reseller Companies	Not Rated	Not Rated	55%	45%	18.32%	8.70%	13.99%
Interexchange Companies								
2310	AT&T Communications ¹	A+	A2	70%	30%	12.83%	5.71%	10.69%
2274	MCI Communications Services, Inc.	A+	A3	70%	30%	12.83%	5.71%	10.69%
2372	MCI Metro Access Transmission Services, LLC	A+	A3	70%	30%	12.83%	5.71%	10.69%
7522	tw telecom of california l.p.	B	Not Rated	65%	35%	13.61%	8.19%	11.71%
2014	Sprint Communications Company	C++	Ba3	60%	40%	15.71%	6.68%	12.10%
2463	Qwest Communications Company, LLC	C+	Ba3	60%	40%	15.71%	6.68%	12.10%
7761	Level 3 Communications, LLC	C++	Not Rated	60%	40%	15.71%	8.19%	12.70%
	Other Interexchange Carriers	Not Rated	Not Rated	55%	45%	20.42%	8.19%	14.92%
	Other Interexchange Resellers	Not Rated	Not Rated	55%	45%	23.56%	8.70%	16.87%

¹ Staff used A3 Debt Rate as it more closely reflects what a buyer would expect in the open market.

² Includes Radio Telephone and Paging Companies

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Pipeline Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Equity	Debt	
402	CALNEV Pipe Line LLC	NR-1	NR-b	65%	35%	12.57%	6.08%	10.29%
461	SFPP, L.P.	NR-1	NR-b	65%	35%	12.57%	6.08%	10.29%
468	Shell California Pipeline Company LLC	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
479	Chevron Pipeline Company	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
480	ConocoPhillips Pipe Line Company	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
486	Pacific Pipeline System, LLC	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
	Other Pipeline Companies	NR-3	NR-c	65%	35%	14.14%	7.10%	11.67%

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Railroads**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
804	BNSF Railway Company	A	Baa2	80%	20%	13.61%	6.08%	12.11%
843	Union Pacific Railroad Company	A	Baa2	80%	20%	13.61%	6.08%	12.11%
802	Central Oregon & Pacific Railroad	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
810	California Northern Railroad	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
813	Pacific Harbor Lines	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
850	Modesto & Empire Traction Company	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
865	San Diego & Imperial Valley Railroad Co. Inc.	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
882	Trona Railway Co.	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
897	San Joaquin Valley Railroad Company	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
899	Arizona & California Railroad	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
	Other Railroad Companies	NR-2	NR-2	60%	40%	15.97%	8.62%	13.03%

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Gas, Electric and Water Companies**

SBE No.	Company Name	Ratings			Capital Structure			Rates of Return			Basic Cap Rate
		Financial	Preferred Stock	Bond	Common Equity	Preferred Stock	Debt	Common Equity	Preferred Stock	Debt	
Gas and Electric Companies											
141	San Diego Gas & Electric Company	A	Baa1	Aa3	53%	4%	43%	11.62%	6.55%	5.60%	8.83%
148	Southern California Edison Company	B++	Baa2	A1	52%	4%	44%	12.04%	6.70%	5.67%	9.03%
135	Pacific Gas and Electric Company	B++	Baa3	A3	52%	4%	44%	11.88%	6.86%	5.91%	9.05%
146	Sierra Pacific Power Company	B	B2	Baa3	52%	1%	47%	12.30%	7.62%	6.40%	9.48%
106	PacifiCorp	Not Rated	Baa3	A2	52%	1%	47%	12.83%	6.86%	5.75%	9.44%
119	Trans Bay Cable LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
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163	California Pacific Electric Co., LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
185	Mountain Utilities, LLC	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
191	Arizona Public Service Company	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
	Electric Cooperatives	Not Rated		Not Rated	51%		49%	12.83%		6.40%	9.68%
Natural Gas Distribution and Storage Companies											
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121	Gill Ranch Storage, LLC	Not Rated		Not Rated	60%		40%	13.09%		6.40%	10.41%
195	Wild Goose Storage, LLC	Not Rated		Not Rated	60%		40%	13.09%		6.40%	10.41%
198	Lodi Gas Storage, LLC	Not Rated		Not Rated	60%		40%	13.09%		6.40%	10.41%
Water Company											
101	Golden State Water Company	B++		Not Rated	55%		45%	10.68%		7.38%	9.19%

**2011 Capitalization Rate Study
Gas, Electric and Water Companies
Industry Notes**

- For rate based utilities, staff considered the California Public Utilities Commission (CPUC) decisions that established the capital structure. Specifically, the proportions of debt and preferred stock have been adjusted to reflect the most current CPUC decisions. For non-rate based utilities, capital structures were developed based on the financial data collected and the relative risk of the utilities sampled in the Capitalization Rate Study.
- For rate based and non-rate based utilities, staff relied upon the results of the following methodologies in the development of equity rates:
 1. CPUC decisions that established the rate of return for rate based utilities
 2. Discounted Cash Flow
 3. Capital Asset Pricing Model – ex post and ex ante risk premiums
- For rate based and non-rate based utilities, staff considered the following in the development of debt rates:
 1. CPUC decisions that established the rate of return for rate based utilities
 2. Moody's Utility Bond Yield Spreads
 3. For non-rated utilities, bond rating of Baa3 for gas/electric and natural gas utilities and B3 for water utilities.
- In addition to the information sources indicated above, staff also reviewed submissions by San Diego Gas & Electric Company, Southern California Edison Company, Pacific Gas and Electric Company, and Southern California Gas Company in determining the basic capitalization rate for these assesseees.
- The following utility was added to the 2011 Capitalization Rate Study sample:
 1. Entergy Corp.
- The following utilities were removed from the 2011 Capitalization Rate Study sample:
 1. Southwest Water Company
 2. NextEra Energy, Inc.

**2011 Capitalization Rate Study
Gas and Electric Companies
Flotation Cost Adjustment**

Equity				Preferred Stock				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A	11.10%	4.50%	11.62%	Baa1	6.44%	1.70%	6.55%	Aa3	5.50%	1.70%	5.60%
B++	11.35%	4.50%	11.88%	Baa2	6.59%	1.70%	6.70%	A1	5.58%	1.70%	5.67%
	11.50%	4.50%	12.04%	Baa3	6.74%	1.70%	6.86%	A2	5.65%	1.70%	5.75%
B	11.75%	4.50%	12.30%	Ba1	6.89%	1.70%	7.01%	A3	5.81%	1.70%	5.91%
NR	12.25%	4.50%	12.83%	Ba2	7.04%	1.70%	7.16%	Baa1	5.97%	1.70%	6.07%
				Ba3	7.19%	1.70%	7.31%	Baa2	6.13%	1.70%	6.24%
				B1	7.34%	1.70%	7.47%	Baa3	6.29%	1.70%	6.40%
				B2	7.49%	1.70%	7.62%	Ba1	6.45%	1.70%	6.56%
				B3	7.64%	1.70%	7.77%	Ba2	6.61%	1.70%	6.72%
								Ba3	6.77%	1.70%	6.89%
								B1	6.93%	1.70%	7.05%
								B2	7.09%	1.70%	7.21%
								B3	7.25%	1.70%	7.38%

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

**2011 Capitalization Rate Study
Gas and Electric Companies
Summary of Rates of Return**

Common Equity		Preferred Stock			Bonds		
Value Line Rating	Rate of Return ¹	Moody's P/S Yields	Moody's Rating	Rate of Return ²	Moody's Bond Yields	Moody's Rating	Rate of Return ²
A	11.10%	Aa=N/A	Aa1	5.92%	Aaa=N/A	Aaa2	4.88%
			Aa2	5.97%		Aaa3	5.00%
B++	11.35%		Aa3	5.99%		Aa1	5.11%
	11.50%	A=6.14%	A1	6.07%	Aa=5.23	Aa2	5.23%
			A2	6.14%		Aa3	5.30%
B	11.75%		A3	6.29%		A1	5.38%
		Baa=6.59%	Baa1	6.44%	A=5.45	A2	5.45%
NR ³	12.25%		Baa2	6.59%		A3	5.61%
			Baa3	6.74%		Baa1	5.77%
			Ba1	6.89%	Baa=5.93	Baa2	5.93%
			Ba2	7.04%		Baa3	6.09%
			Ba3	7.19%		Ba1	6.25%
			B1	7.34%		Ba2	6.41%
			B2	7.49%		Ba3	6.57%
			B3	7.64%		B1	6.73%
						B2	6.89%
						B3	7.05%
						NR	7.21%

¹ The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of various financial models and pertinent information from different sources. Consideration was also given to the latest California Public Utilities Commission (CPUC) decisions that established rates of return. For 2011, the return on equity (ROE) and return on rate base (ROR) for PG&E are 11.35% and 8.79%, respectively (D.09-10-016); for SCE, the ROE and ROR are 11.50% and 8.82%, respectively (D.09-10-016); for SDG&E, the ROE and ROR are 11.10% and 8.40%, respectively (D.07-12-049).

² The Rates of Return on Preferred Stocks and Bonds were based on the 2010 Moody's "Utility Preferred Stock Yields" and "Utility Bond Yields" reports. Because Moody assigns yields only to groups Aaa, Aa, A and Baa for bonds; and Aa, A, and Baa for preferred stock, staff interpolates the difference between these groups to further refine the ratings.

³ For companies that do not have financial ratings (NR), staff judgment was used in assigning the Rate of Return on Common Equity based on the financial information collected from various sources.

2011 Capitalization Rate Study
Gas and Electric Companies
Capital Asset Pricing Model - Ex Ante

Component	Value Line Ratings	
	A+, A	B++, B+, B
Expected Future Return, S&P 500	9.22%	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%	4.37%
Risk Premium	4.85%	4.85%
Beta ²	0.76	0.71
Adjusted Risk Premium	3.71%	3.45%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%	4.37%
Projected Return on Common Equity	8.08%	7.82%

¹ WSJ.com, January 3, 2011

² The estimated betas were derived from a sample of gas and electric companies with similar ratings.

**2011 Capitalization Rate Study
Gas and Electric Companies
Capital Asset Pricing Model - Ex Post**

Component	Value Line Ratings	
	A+, A	B++, B+, B
Common Stock Return (1926 - 2010) ¹	11.90%	11.90%
Less: Income-Long Term Government Bonds (1926 - 2010) ¹	5.20%	5.20%
Risk Premium	6.70%	6.70%
Beta ²	0.76	0.71
Adjusted Risk Premium	5.12%	4.77%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.37%	4.37%
Projected Return on Common Equity	9.49%	9.14%

¹ Ibbotson Associates Study, 2011

² The estimated betas were derived from a sample of gas and electric companies with similar ratings.

³ WSJ.com, January 3, 2011

2011 Capitalization Rate Study
Gas and Electric Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
A+	Consolidated Edison	49.57	3.55	3.45	2.38	2.40	4.84%	1.00%	3.80%	7.16%	5.84%	8.64%
A	Allete, Inc.	37.26	2.45	2.20	1.76	1.76	4.72%	1.50%	3.43%	6.58%	6.22%	8.16%
A	Alliant Energy Corp.	36.77	3.00	2.75	1.58	1.65	4.49%	5.50%	6.23%	8.16%	9.99%	10.72%
A	CH Energy Group	48.89	3.00	2.90	2.16	2.16	4.42%	NIL	4.50%	6.14%	4.42%	8.92%
A	Entergy Corp.	70.83	6.50	6.65	3.24	3.38	4.77%	4.00%	2.40%	9.18%	8.77%	7.17%
A	Exelon Corporation	41.64	4.00	4.00	2.10	2.10	5.04%	1.00%	-3.03%	9.61%	6.04%	2.01%
A	MGE Energy Inc.	42.76	2.60	2.60	1.49	1.52	3.55%	2.00%	4.67%	6.08%	5.55%	8.22%
A	NStar	42.19	2.55	2.40	1.63	1.73	4.10%	6.00%	6.20%	6.04%	10.10%	10.30%
A	OGE Energy Corp.	45.54	3.05	2.90	1.46	1.51	3.32%	3.00%	6.33%	6.70%	6.32%	9.65%
A	Scana Corp.	40.60	3.05	2.95	1.90	1.92	4.73%	1.50%	4.03%	7.51%	6.23%	8.76%
A	Sempra Energy	52.48	4.20	3.80	1.56	1.68	3.20%	6.50%	5.37%	8.00%	9.70%	8.57%
A	Southern Co.	38.23	2.50	2.36	1.80	1.88	4.92%	4.00%	4.90%	6.54%	8.92%	9.82%
A	Vectren Corp.	25.38	1.85	1.65	1.37	1.39	5.48%	2.50%	4.77%	7.29%	7.98%	10.24%
	Mean						4.43%	3.21%	4.12%	7.31%	7.39%	8.55%
	Median						4.72%	2.75%	4.67%	7.16%	6.32%	8.76%
	Weighted Average										7.79%	7.63%

Sources: Columns a, b, d, e, f, g and i were extracted from Value Line.

Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and ThomsonReuters.com.

Column c was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Gas and Electric Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B++	Allegheny Energy Corp.	24.24	1.80	2.30	0.60	0.60	2.48%	18.00%	2.00%	7.43%	20.48%	4.48%
B++	Ameren Corp.	28.19	2.50	2.75	1.54	1.54	5.46%	-6.00%	-2.17%	8.87%	-0.54%	3.30%
B++	American Electric Power	35.98	3.10	2.60	1.71	1.84	5.11%	3.50%	3.63%	8.62%	8.61%	8.75%
B++	Avista Corporation	22.52	1.70	1.65	1.00	1.08	4.80%	11.00%	5.90%	7.55%	15.80%	10.70%
B++	DPL Inc.	25.71	2.60	2.50	1.21	1.28	4.98%	5.50%	6.45%	10.11%	10.48%	11.43%
B++	Edison International	38.60	3.25	3.40	1.27	1.29	3.34%	2.50%	1.60%	8.42%	5.84%	4.94%
B++	El Paso Electric	27.53	2.10	2.05	NIL	NIL	0.00%	NMF	7.50%	7.63%	0.00%	7.50%
B++	PG&E Corporation	47.84	3.40	2.80	1.82	1.92	4.01%	6.00%	6.50%	7.11%	10.01%	10.51%
B++	Progress Energy, Inc.	43.48	3.15	3.00	2.48	2.52	5.80%	1.00%	3.70%	7.24%	6.80%	9.50%
B++	UIL Holdings Corp.	29.96	2.15	2.00	1.73	1.73	5.77%	NIL	3.37%	7.18%	5.77%	9.14%
B++	Westar Energy	25.16	1.95	1.90	1.24	1.28	5.09%	3.50%	8.13%	7.75%	8.59%	13.22%
B++	Wisconsin Energy Corp.	58.86	4.10	3.75	1.60	2.10	3.57%	15.50%	9.37%	6.97%	19.07%	12.93%
B++	Xcel Energy	23.55	1.75	1.56	1.00	1.03	4.37%	3.50%	5.83%	7.43%	7.87%	10.21%
B+	Black Hills Corp.	30.00	2.00	1.30	1.44	1.46	4.87%	2.00%	6.17%	6.67%	6.87%	11.03%
B+	Cleco Corporation	30.76	2.35	2.20	0.98	1.08	3.51%	8.50%	6.50%	7.64%	12.01%	10.01%
B+	DTE Energy Co.	45.32	3.65	3.65	2.18	2.30	5.08%	3.50%	5.37%	8.05%	8.58%	10.44%
B+	Empire District Electric Co.	22.20	1.40	1.20	1.28	1.28	5.77%	1.00%	7.50%	6.31%	6.77%	13.27%
B+	Great Plains Energy Inc.	19.39	1.45	1.60	0.83	0.87	4.49%	-3.00%	10.17%	7.48%	1.49%	14.65%
B+	Hawaiian Electric Industries	22.79	1.50	1.30	1.24	1.24	5.44%	1.00%	9.67%	6.58%	6.44%	15.11%
B+	Northeast Utilities	31.88	2.10	2.05	1.03	1.10	3.45%	8.00%	7.50%	6.59%	11.45%	10.95%
B+	Otter Tail Corporation	22.54	1.10	0.70	1.19	1.19	5.28%	1.50%	14.67%	4.88%	6.78%	19.95%
B+	Pinnacle West Capital	41.45	3.15	3.10	2.10	2.10	5.07%	1.50%	6.43%	7.60%	6.57%	11.50%
B+	Portland General Electric	21.70	1.75	1.70	1.04	1.07	4.93%	3.50%	4.67%	8.06%	8.43%	9.60%
B	Centerpoint Energy, Inc.	15.72	1.20	1.05	0.78	0.80	5.09%	3.50%	5.70%	7.63%	8.59%	10.79%
B	Central Vermont PS	21.86	1.60	1.50	0.92	0.92	4.21%	1.50%	2.00%	7.32%	5.71%	6.21%
B	CMS Energy Corp.	18.60	1.45	1.35	0.72	0.84	4.52%	19.00%	7.43%	7.80%	23.52%	11.95%
B	NV Energy, Inc.	14.05	0.95	0.95	0.45	0.50	3.56%	15.00%	9.73%	6.76%	18.56%	13.29%
B	PNM Resources, Inc.	13.02	0.70	0.85	0.50	0.50	3.84%	1.00%	15.57%	5.38%	4.84%	19.41%
	Mean						4.42%	5.06%	6.46%	7.39%	9.12%	10.88%
	Median						4.83%	3.50%	6.44%	7.45%	8.15%	10.74%
	Weighted Average										10.79%	13.98%

Sources: Columns a, b, d, e, f, g and i were extracted from Value Line.

Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and ThomsonReuters.com.

Column c was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

**2011 Capitalization Rate Study
Gas and Electric Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A+	Consolidated Edison	2.50%	4.60%	4.30%	3.80%
A	Allete, Inc.	1.00%	4.00%	5.30%	3.43%
A	Alliant Energy Corp.	7.00%	3.50%	8.20%	6.23%
A	CH Energy Group	4.50%	N/A	N/A	4.50%
A	Entergy Corp.	2.00%	3.70%	1.50%	2.40%
A	Exelon Corporation	-3.00%	-3.70%	-2.40%	-3.03%
A	MGE Energy Inc.	4.00%	5.00%	5.00%	4.67%
A	NStar	7.00%	6.10%	5.50%	6.20%
A	OGE Energy Corp.	6.50%	5.50%	7.00%	6.33%
A	Scana Corp.	3.50%	3.80%	4.80%	4.03%
A	Sempra Energy	1.00%	8.50%	6.60%	5.37%
A	Southern Co.	4.50%	4.80%	5.40%	4.90%
A	Vectren Corp.	4.50%	5.00%	4.80%	4.77%
B++	Allegheny Energy Corp.	4.00%	1.00%	1.00%	2.00%
B++	Ameren Corp.	-2.50%	-2.00%	-2.00%	-2.17%
B++	American Electric Power	3.00%	4.00%	3.90%	3.63%
B++	Avista Corporation	8.50%	4.70%	4.50%	5.90%
B++	DPL Inc.	7.00%	N/A	5.90%	6.45%
B++	Edison International	-1.00%	3.00%	2.80%	1.60%
B++	El Paso Electric	7.50%	N/A	N/A	7.50%
B++	PG&E Corporation	6.00%	7.00%	6.50%	6.50%
B++	Progress Energy, Inc.	3.50%	4.00%	3.60%	3.70%
B++	UIL Holdings Corp.	3.50%	3.20%	3.40%	3.37%
B++	Westar Energy	8.50%	8.10%	7.80%	8.13%
B++	Wisconsin Energy Corp.	9.50%	8.50%	10.10%	9.37%
B++	Xcel Energy	5.50%	5.50%	6.50%	5.83%

**2011 Capitalization Rate Study
Gas and Electric Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
B+	Black Hills Corp.	6.50%	6.00%	6.00%	6.17%
B+	Cleco Corporation	9.50%	7.00%	3.00%	6.50%
B+	DTE Energy Co.	6.50%	5.00%	4.60%	5.37%
B+	Empire District Electric Co.	7.50%	N/A	N/A	7.50%
B+	Great Plains Energy Inc.	4.50%	13.00%	13.00%	10.17%
B+	Hawaiian Electric Industries	11.50%	9.50%	8.00%	9.67%
B+	Northeast Utilities	7.50%	7.70%	7.30%	7.50%
B+	Otter Tail Corporation	5.50%	22.00%	16.50%	14.67%
B+	Pinnacle West Capital	6.00%	6.80%	6.50%	6.43%
B+	Portland General Electric	3.00%	5.60%	5.40%	4.67%
B	Centerpoint Energy, Inc.	3.00%	7.30%	6.80%	5.70%
B	Central Vermont PS	2.00%	N/A	N/A	2.00%
B	CMS Energy Corp.	10.00%	6.30%	6.00%	7.43%
B	NV Energy, Inc.	6.50%	10.50%	12.20%	9.73%
B	PNM Resources, Inc.	17.00%	15.00%	14.70%	15.57%
	Mean	5.35%	6.10%	5.95%	5.78%
	Median	5.00%	5.50%	5.50%	5.83%
	Weighted Average				4.29%

Sources: Columns a, b and c were extracted from Value Line.
Column d was extracted from Zacks.com.
Column e was extracted from ThomsonReuters.com.

2011 Capitalization Rate Study
Gas and Electric Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Mkt Value Equity (\$million)	L.T. Debt (\$million)	Pfd Stock (\$million)	Common Equity (\$million)	Total Capital (\$million)	L.T. Debt %	Pfd Stock %	Common Equity %
A+	Consolidated Edison	290,536,094	49.57	14,401.87	10,667.00	213.00	14,401.87	25,281.87	42.19%	0.84%	56.97%
A	Allete, Inc.	35,799,762	37.26	1,333.90	784.20	0.00	1,333.90	2,118.10	37.02%	0.00%	62.98%
A	Alliant Energy Corp.	110,855,025	36.77	4,076.14	2,703.80	243.80	4,076.14	7,023.74	38.50%	3.47%	58.03%
A	CH Energy Group	15,823,926	48.89	773.63	503.90	21.00	773.63	1,298.53	38.81%	1.62%	59.58%
A	Entergy Corp.	180,915,164	70.83	12,814.22	11,445.00	310.70	12,814.22	24,569.92	46.58%	1.26%	52.15%
A	Exelon Corporation	661,413,334	41.64	27,541.25	12,052.00	87.00	27,541.25	39,680.25	30.37%	0.22%	69.41%
A	MGE Energy Inc.	23,113,632	42.76	988.34	319.70	0.00	988.34	1,308.04	24.44%	0.00%	75.56%
A	NStar	103,586,727	42.19	4,370.32	2,301.10	43.00	4,370.32	6,714.42	34.27%	0.64%	65.09%
A	OGE Energy Corp.	97,476,755	45.54	4,439.09	2,372.80	0.00	4,439.09	6,811.89	34.83%	0.00%	65.17%
A	Scana Corp.	127,222,659	40.60	5,165.24	3,865.00	0.00	5,165.24	9,030.24	42.80%	0.00%	57.20%
A	Sempra Energy	240,054,962	52.48	12,598.08	8,032.00	179.00	12,598.08	20,809.08	38.60%	0.86%	60.54%
A	Southern Co.	838,671,173	38.23	32,062.40	18,198.00	1,082.00	32,062.40	51,342.40	35.44%	2.11%	62.45%
A	Vectren Corp.	81,653,437	25.38	2,072.36	1,590.30	0.00	2,072.36	3,662.66	43.42%	0.00%	56.58%
	Mean								37.48%	0.85%	61.67%
	Median								38.50%	0.64%	60.54%
	Weighted Average								37.48%	1.09%	61.43%

Sources: Columns a, b, c, f and g were extracted from Value Line.
Column d was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Gas and Electric Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Mkt Value Equity (\$million)	L.T. Debt (\$million)	Pfd Stock (\$million)	Common Equity (\$million)	Total Capital (\$million)	L.T. Debt %	Pfd Stock %	Common Equity %
B++	Allegheny Energy Corp.	169,936,010	24.24	4,119.25	4,550.60	0.00	4,119.25	8,669.85	52.49%	0.00%	47.51%
B++	Ameren Corp.	239,829,423	28.19	6,760.79	7,259.00	195.00	6,760.79	14,214.79	51.07%	1.37%	47.56%
B++	American Electric Power	480,276,270	35.98	17,280.34	15,995.00	61.00	17,280.34	33,336.34	47.98%	0.18%	51.84%
B++	Avista Corporation	56,584,202	22.52	1,274.28	1,140.50	0.00	1,274.28	2,414.78	47.23%	0.00%	52.77%
B++	DPL Inc.	118,943,392	25.71	3,058.03	926.40	22.90	3,058.03	4,007.33	23.12%	0.57%	76.31%
B++	Edison International	325,811,206	38.60	12,576.31	12,117.00	907.00	12,576.31	25,600.31	47.33%	3.54%	49.13%
B++	El Paso Electric	42,613,728	27.53	1,173.16	849.70	0.00	1,173.16	2,022.86	42.00%	0.00%	58.00%
B++	PG&E Corporation	392,065,793	47.84	18,756.43	11,255.00	252.00	18,756.43	30,263.43	37.19%	0.83%	61.98%
B++	Progress Energy, Inc.	292,938,462	43.48	12,736.96	11,636.00	92.80	12,736.96	24,465.76	47.56%	0.38%	52.06%
B++	UIL Holdings Corp.	50,429,782	29.96	1,510.88	715.50	0.00	1,510.88	2,226.38	32.14%	0.00%	67.86%
B++	Westar Energy	111,390,861	25.16	2,802.59	2,778.50	21.40	2,802.59	5,602.49	49.59%	0.38%	50.02%
B++	Wisconsin Energy Corp.	116,896,897	58.86	6,880.55	3,935.70	30.40	6,880.55	10,846.65	36.28%	0.28%	63.43%
B++	Xcel Energy	460,112,922	23.55	10,835.66	8,864.80	105.00	10,835.66	19,805.46	44.76%	0.53%	54.71%
B+	Black Hills Corp.	39,248,927	30.00	1,177.47	1,188.30	0.00	1,177.47	2,365.77	50.23%	0.00%	49.77%
B+	Cleco Corporation	60,730,766	30.76	1,868.08	1,187.80	1.00	1,868.08	3,056.88	38.86%	0.03%	61.11%
B+	DTE Energy Co.	169,117,259	45.32	7,664.39	7,074.00	0.00	7,664.39	14,738.39	48.00%	0.00%	52.00%
B+	Empire District Electric Co.	41,492,632	22.20	921.14	690.70	0.00	921.14	1,611.84	42.85%	0.00%	57.15%
B+	Great Plains Energy Inc.	135,649,422	19.39	2,630.24	3,101.30	39.00	2,630.24	5,770.54	53.74%	0.68%	45.58%
B+	Hawaiian Electric Industries	94,157,246	22.79	2,145.84	1,364.90	34.30	2,145.84	3,545.04	38.50%	0.97%	60.53%
B+	Northeast Utilities	176,317,768	31.88	5,621.01	4,882.70	116.20	5,621.01	10,619.91	45.98%	1.09%	52.93%
B+	Otter Tail Corporation	35,932,339	22.54	809.91	435.60	15.50	809.91	1,261.01	34.54%	1.23%	64.23%
B+	Pinnacle West Capital	108,711,779	41.45	4,506.10	3,463.30	0.00	4,506.10	7,969.40	43.46%	0.00%	56.54%
B+	Portland General Electric	75,298,847	21.70	1,633.98	1,808.00	0.00	1,633.98	3,441.98	52.53%	0.00%	47.47%
B	Centerpoint Energy, Inc.	423,184,236	15.72	6,652.46	8,267.00	0.00	6,652.46	14,919.46	55.41%	0.00%	44.59%
B	Central Vermont PS	13,110,711	21.86	286.60	161.90	8.10	286.60	456.60	35.46%	1.77%	62.77%
B	CMS Energy Corp.	244,575,698	18.60	4,549.11	6,203.00	45.00	4,549.11	10,797.11	57.45%	0.42%	42.13%
B	NV Energy, Inc.	235,176,008	14.05	3,304.22	5,313.40	0.00	3,304.22	8,617.62	61.66%	0.00%	38.34%
B	PNM Resources, Inc.	86,673,174	13.02	1,128.48	1,566.00	11.50	1,128.48	2,705.98	57.87%	0.42%	41.70%
	Mean								45.55%	0.52%	53.93%
	Median								47.28%	0.33%	52.42%
	Weighted Average								46.75%	0.71%	52.54%

Sources: Columns a, b, c, f and g were extracted from Value Line.

Column d was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

**2011 Capitalization Rate Study
Gas and Electric Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Company's Tax Rate	Debt Equity Ratio ¹	Unlevered Beta ²
A+	Consolidated Edison	0.65	0.29	0.31	0.42	0.35	0.73	0.44
A	Allete, Inc.	0.70	0.64	0.66	0.67	0.39	0.46	0.55
A	Alliant Energy Corp.	0.70	0.55	0.55	0.60	0.33	0.53	0.52
A	CH Energy Group	0.65	0.40	0.39	0.48	0.38	0.57	0.48
A	Entergy Corp.	0.70	0.62	0.65	0.66	0.36	0.66	0.49
A	Exelon Corporation	0.85	0.61	0.62	0.69	0.36	0.33	0.70
A	MGE Energy Inc.	0.65	0.29	0.30	0.41	0.37	0.32	0.54
A	NStar	0.65	0.31	0.31	0.42	0.39	0.57	0.48
A	OGE Energy Corp.	0.75	0.80	0.79	0.78	0.35	0.52	0.56
A	Scana Corp.	0.70	0.61	0.60	0.64	0.29	0.77	0.45
A	Sempra Energy	0.85	0.59	0.58	0.67	0.31	0.47	0.64
A	Southern Co.	0.55	0.36	0.36	0.42	0.32	0.57	0.40
A	Vectren Corp.	0.70	0.43	0.44	0.52	0.36	0.66	0.49
	Mean	0.70	0.50	0.50	0.57		0.55	0.52
	Median	0.70	0.55	0.55	0.60		0.57	0.49
	Weighted Average				0.56		0.55	0.52
	Relevered Beta based on 44% Debt Capital Structure and Mean Unlevered Beta ³							0.76
	Relevered Beta based on 44% Debt Capital Structure and Weighted Average Unlevered Beta ³							0.77

Sources: Columns a, b, c and g were extracted from Value Line.

Column d was extracted from Zacks.com.

Column e was extracted from Standard and Poor's Stock Reports.

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = $\text{Beta} / [1 + (1 - \text{tc})(\text{D/E})]$; where D/E is the debt to equity ratio, tc is the company's most recent tax rate.

³ Relevered Beta = $[\text{Unlevered Beta}] [1 + (1 - \text{tp})(\text{D/E})]$; where D/E is the debt to equity ratio, tp is the prospective purchaser's tax rate (assumed to be 40%)

**2011 Capitalization Rate Study
Gas and Electric Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line		Value		Standard		Company's	Debt	
Rating	Company Name	Line	Zacks	& Poor's	Average	Tax	Equity	Unlevered
		Beta	Beta	Beta	Beta	Rate	Ratio ¹	Beta ²
B++	Allegheny Energy Corp.	0.95	0.89	0.88	0.91	0.38	0.74	0.65
B++	Ameren Corp.	0.80	0.70	0.69	0.73	0.37	0.82	0.53
B++	American Electric Power	0.70	0.58	0.60	0.63	0.34	0.93	0.43
B++	Avista Corporation	0.70	0.74	0.75	0.73	0.38	0.83	0.46
B++	DPL Inc.	0.60	0.60	0.61	0.60	0.33	0.43	0.47
B++	Edison International	0.80	0.71	0.70	0.74	0.32	0.86	0.50
B++	El Paso Electric	0.75	0.68	N/A	0.72	0.38	0.74	0.51
B++	PG&E Corporation	0.55	0.34	0.33	0.41	0.36	0.56	0.40
B++	Progress Energy, Inc.	0.60	0.40	0.40	0.47	0.34	0.93	0.37
B++	UIL Holdings Corp.	0.70	0.80	0.78	0.76	0.40	0.58	0.52
B++	Westar Energy	0.75	0.66	0.65	0.69	0.30	0.91	0.46
B++	Wisconsin Energy Corp.	0.65	0.39	0.40	0.48	0.36	0.61	0.47
B++	Xcel Energy	0.65	0.46	0.45	0.52	0.38	0.80	0.43
B+	Black Hills Corp.	0.80	1.12	1.13	1.02	0.32	0.62	0.56
B+	Cleco Corporation	0.65	0.52	0.53	0.57	0.35	0.61	0.47
B+	DTE Energy Co.	0.75	0.68	0.67	0.70	0.34	1.02	0.45
B+	Empire District Electric Co.	0.70	0.64	0.66	0.67	0.40	0.83	0.47
B+	Great Plains Energy Inc.	0.75	0.76	0.77	0.76	0.34	0.87	0.48
B+	Hawaiian Electric Industries	0.70	0.53	0.55	0.59	0.37	0.63	0.50
B+	Northeast Utilities	0.70	0.51	0.52	0.58	0.38	0.94	0.44
B+	Otter Tail Corporation	0.95	1.13	1.15	1.08	0.25	0.40	0.73
B+	Pinnacle West Capital	0.70	0.59	0.58	0.62	0.35	0.88	0.45
B+	Portland General Electric	0.75	0.70	0.69	0.71	0.29	0.88	0.46
B	Centerpoint Energy, Inc.	0.80	0.71	0.73	0.75	0.41	1.61	0.41
B	Central Vermont PS	0.75	0.62	0.67	0.68	0.35	0.60	0.54
B	CMS Energy Corp.	0.75	0.58	0.57	0.63	0.35	2.03	0.32
B	NV Energy, Inc.	0.85	0.69	0.69	0.74	0.34	1.62	0.41
B	PNM Resources, Inc.	0.95	1.00	0.98	0.98	0.40	1.28	0.54
	Mean	0.74	0.67	0.67	0.69		0.88	0.48
	Median	0.75	0.67	0.67	0.69		0.83	0.47
	Weighted Average				0.63		0.93	0.45
	Relevered Beta based on 47% Debt Capital Structure and Mean Unlevered Beta ³							0.74
	Relevered Beta based on 47% Debt Capital Structure and Weighted Average Unlevered Beta ³							0.69

Sources: Columns a, b, c and g were extracted from Value Line.

Column d was extracted from Zacks.com.

Column e was extracted from Standard and Poor's Stock Reports.

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = $\text{Beta} / [1 + (1 - t_c)(D/E)]$; where D/E is the debt to equity ratio, t_c is the company's most recent tax rate.

³ Relevered Beta = $[\text{Unlevered Beta}] [1 + (1 - t_p)(D/E)]$; where D/E is the debt to equity ratio, t_p is the prospective purchaser's tax rate (assumed to be 40%).

**2011 Capitalization Rate Study
Natural Gas Distribution Companies
Flotation Cost Adjustment**

Equity				Preferred Stock				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A	10.82%	4.50%	11.33%	Baa1	6.44%	1.70%	6.55%	Aa2	5.43%	1.70%	5.52%
B	10.50%	4.50%	10.99%	Baa2	6.59%	1.70%	6.70%	Aa3	5.50%	1.70%	5.60%
NR	12.00%	4.50%	12.57%	Baa3	6.74%	1.70%	6.86%	A1	5.58%	1.70%	5.67%
	12.50%	4.50%	13.09%	Ba1	6.89%	1.70%	7.01%	A2	5.65%	1.70%	5.75%
				Ba2	7.04%	1.70%	7.16%	A3	5.81%	1.70%	5.91%
				Ba3	7.19%	1.70%	7.31%	Baa1	5.97%	1.70%	6.07%
								Baa2	6.13%	1.70%	6.24%
								Baa3	6.29%	1.70%	6.40%
								Ba1	6.45%	1.70%	6.56%
								Ba2	6.61%	1.70%	6.72%
								Ba3	6.77%	1.70%	6.89%
								B1	6.93%	1.70%	7.05%
								B2	7.09%	1.70%	7.21%
								B3	7.25%	1.70%	7.38%

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

**2011 Capitalization Rate Study
Natural Gas Distribution Companies
Summary of Rates of Return**

Common Equity		Preferred Stock			Bonds		
Value Line Rating	Rate of Return ¹	Moody's P/S Yields	Moody's Rating	Rate of Return ²	Moody's Bond Yields	Moody's Rating	Rate of Return ²
A	10.82%	Aa=N/A	Aa1	5.92%	Aaa=N/A	Aaa2	4.88%
			Aa2	5.97%		Aaa3	5.00%
B	10.50%	A=6.14%	Aa3	5.99%	Aa=5.23	Aa1	5.11%
			A1	6.07%		Aa2	5.23%
NR ³	12.00%	Baa=6.59%	A2	6.14%	A=5.45	Aa3	5.30%
	12.50%		A3	6.29%		A1	5.38%
			Baa1	6.44%		A2	5.45%
			Baa2	6.59%		A3	5.61%
			Baa3	6.74%		Baa1	5.77%
			Ba1	6.89%		Baa2	5.93%
			Ba2	7.04%	Baa=5.93	Baa3	6.09%
			Ba3	7.19%		Ba1	6.25%
			B1	7.34%		Ba2	6.41%
			B2	7.49%		Ba3	6.57%
			B3	7.64%		B1	6.73%
						B2	6.89%
						B3	7.05%
						NR	7.21%

¹The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of various financial models and pertinent information from different sources. Consideration was also given to the latest CPUC decisions that established rates of return. For 2011, the return on equity and return on rate base for Southern California Gas Company are 10.82% and 8.68%, respectively (D.97-07-054).

²The Rates of Return on Preferred Stocks and Bonds were based on the 2010 Moody's "Utility Preferred Stock Yields" and "Utility Bond Yields" reports. Because Moody assigns yields only to groups Aaa, Aa, A and Baa for bonds; and Aa, A, and Baa for preferred stock, staff interpolates the difference between these groups to further refine the ratings.

³For companies that do not have financial ratings (NR), staff judgment was used in assigning the Rate of Return on Common Equity based on the financial information collected from various sources.

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Asset Pricing Model - Ex Ante

Component	Value Line Ratings	
	A, B++	B+, B
Expected Future Return, S&P 500	9.22%	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%	4.37%
Risk Premium	4.85%	4.85%
Beta ²	0.67	0.72
Adjusted Risk Premium	3.24%	3.47%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%	4.37%
Projected Return on Common Equity	7.61%	7.84%

¹ WSJ.com, January 3, 2011

² The estimated betas were derived from a sample of natural gas distribution companies with similar ratings.

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Asset Pricing Model - Ex Post

Component	Value Line Ratings	
	A, B++	B+, B
Common Stock Return (1926 - 2010) ¹	11.90%	11.90%
Less: Income-Long Term Government Bonds (1926 - 2010) ¹	5.20%	5.20%
Risk Premium	6.70%	6.70%
Beta ²	0.67	0.72
Adjusted Risk Premium	4.48%	4.79%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.37%	4.37%
Projected Return on Common Equity	8.85%	9.16%

¹ Ibbotson Associates Study, 2011

² The estimated betas were derived from a sample of natural gas distribution companies with similar ratings.

³ WSJ.com, January 3, 2011

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
A	New Jersey Resources Corp.	43.11	2.65	2.46	1.36	1.44	3.34%	5.50%	3.97%	6.15%	8.84%	7.31%
A	Nicor Inc.	49.92	2.80	2.75	1.86	1.86	3.73%	NIL	2.00%	5.61%	3.73%	5.73%
A	Northwest Natural Gas Co.	46.47	2.80	2.75	1.68	1.72	3.70%	4.00%	3.83%	6.03%	7.70%	7.53%
A	WGL Holdings, Inc.	35.77	2.10	2.27	1.51	1.55	4.33%	3.00%	3.47%	5.87%	7.33%	7.80%
B++	AGL Resources, Inc.	35.85	3.15	3.00	1.76	1.80	5.02%	2.50%	4.57%	8.79%	7.52%	9.59%
B++	Piedmont Natural Gas Co.	27.96	1.60	1.50	1.11	1.15	4.11%	3.50%	3.83%	5.72%	7.61%	7.95%
B++	South Jersey Industries, Inc.	52.82	2.90	2.70	1.36	1.48	2.80%	8.50%	6.60%	5.49%	11.30%	9.40%
B++	UGI Corp.	31.58	2.40	2.38	0.90	1.00	3.17%	7.50%	2.40%	7.60%	10.67%	5.57%
	Mean						3.78%	4.93%	3.83%	6.41%	8.09%	7.61%
	Median						3.71%	4.00%	3.83%	5.95%	7.66%	7.67%
	Weighted Average										8.19%	7.49%

Sources: Columns a, b, d, e, f, g and i were extracted from Value Line.

Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and ThomsonReuters.com.

Column c was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B+	Atmos Energy Corp.	31.20	2.30	2.16	1.34	1.36	4.36%	2.00%	4.53%	7.37%	6.36%	8.89%
B+	Laclede Group, Inc.	36.54	2.55	2.43	1.57	1.61	4.41%	2.50%	2.75%	6.98%	6.91%	7.16%
B	NiSource, Inc.	17.62	1.30	1.25	0.92	0.93	5.28%	0.50%	5.37%	7.38%	5.28%	10.64%
B	Southwest Gas Corp.	36.67	2.45	2.35	1.00	1.05	2.86%	5.00%	6.67%	6.68%	7.86%	9.53%
	Mean						4.23%	2.50%	4.83%	7.10%	6.60%	9.06%
	Median						4.38%	2.25%	4.95%	7.18%	6.63%	9.21%
	Weighted Average										6.00%	9.86%

Sources: Columns a, b, d, e, f, g and i were extracted from Value Line.

Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and ThomsonReuters.com.

Column c was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

**2011 Capitalization Rate Study
Natural Gas Distribution Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A	New Jersey Resources Corp.	5.00%	4.00%	2.90%	3.97%
A	Nicor Inc.	1.00%	3.50%	1.50%	2.00%
A	Northwest Natural Gas Co.	3.00%	4.60%	3.90%	3.83%
A	WGL Holdings, Inc.	1.50%	5.30%	3.60%	3.47%
B++	AGL Resources, Inc.	4.50%	4.00%	5.20%	4.57%
B++	Piedmont Natural Gas Co.	3.50%	4.50%	3.50%	3.83%
B++	South Jersey Industries, Inc.	7.00%	6.50%	6.30%	6.60%
B++	UGI Corp.	2.50%	1.60%	3.10%	2.40%
B+	Atmos Energy Corp.	5.50%	4.50%	3.60%	4.53%
B+	Laclede Group, Inc.	2.50%	3.00%	N/A	2.75%
B	NiSource, Inc.	6.00%	3.00%	7.10%	5.37%
B	Southwest Gas Corp.	8.00%	6.00%	6.00%	6.67%
	Mean	4.17%	4.21%	4.25%	4.17%
	Median	4.00%	4.25%	3.60%	3.90%
	Weighted Average				4.35%

Sources: Columns a, b and c were extracted from Value Line.
Column d was extracted from Zacks.com.
Column e was extracted from ThomsonReuters.com.

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Mkt Value Equity (\$million)	L.T. Debt (\$million)	Pfd Stock (\$million)	Common Equity (\$million)	Total Capital (\$million)	L.T. Debt %	Pfd Stock %	Common Equity %
A	New Jersey Resources Corp.	41,250,098	43.11	1,778.29	428.90	0.00	1,778.29	2,207.19	19.43%	0.00%	80.57%
A	Nicor Inc.	45,534,284	49.92	2,273.07	423.40	1.00	2,273.07	2,697.47	15.70%	0.04%	84.27%
A	Northwest Natural Gas Co.	26,640,453	46.47	1,237.98	591.60	0.00	1,237.98	1,829.58	32.34%	0.00%	67.66%
A	WGL Holdings, Inc.	51,071,533	35.77	1,826.83	592.90	28.20	1,826.83	2,447.93	24.22%	1.15%	74.63%
B++	AGL Resources, Inc.	78,041,667	35.85	2,797.79	1,514.00	0.00	2,797.79	4,311.79	35.11%	0.00%	64.89%
B++	Piedmont Natural Gas Co.	71,113,862	27.96	1,988.34	732.00	0.00	1,988.34	2,720.34	26.91%	0.00%	73.09%
B++	South Jersey Industries, Inc.	29,872,825	52.82	1,577.88	285.00	0.00	1,577.88	1,862.88	15.30%	0.00%	84.70%
B++	UGI Corp.	110,466,049	31.58	3,488.52	1,432.20	0.00	3,488.52	4,920.72	29.11%	0.00%	70.89%
	Mean								24.76%	0.15%	75.09%
	Median								25.56%	0.00%	73.86%
	Weighted Average								26.09%	0.13%	73.78%

Sources: Columns a, b, c, f and g were extracted from Value Line.
Column d was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Mkt Value Equity (\$million)	L.T. Debt (\$million)	Pfd Stock (\$million)	Common Equity (\$million)	Total Capital (\$million)	L.T. Debt %	Pfd Stock %	Common Equity %
B+	Atmos Energy Corp.	90,154,801	31.20	2,812.83	1,809.50	0.00	2,812.83	4,622.33	39.15%	0.00%	60.85%
B+	Laclede Group, Inc.	22,292,095	36.54	814.55	364.30	0.00	814.55	1,178.85	30.90%	0.00%	69.10%
B	NiSource, Inc.	278,305,866	17.62	4,903.75	5,964.30	0.00	4,903.75	10,868.05	54.88%	0.00%	45.12%
B	Southwest Gas Corp.	45,548,236	36.67	1,670.25	1,075.50	0.00	1,670.25	2,745.75	39.17%	0.00%	60.83%
	Mean								41.02%	0.00%	58.98%
	Median								39.16%	0.00%	60.84%
	Weighted Average								47.46%	0.00%	52.54%

Sources: Columns a, b, c, f and g were extracted from Value Line.
Column d was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Company's Tax Rate	Debt Equity Ratio ¹	Unlevered Beta ²
A	New Jersey Resources Corp.	0.65	0.22	N/A	0.44	0.38	0.26	0.56
A	Nicor Inc.	0.75	0.45	0.44	0.55	0.27	0.24	0.64
A	Northwest Natural Gas Co.	0.60	0.34	0.33	0.42	0.38	0.45	0.47
A	WGL Holdings, Inc.	0.65	0.27	0.25	0.39	0.40	0.37	0.53
B++	AGL Resources, Inc.	0.75	0.47	0.48	0.57	0.35	0.60	0.54
B++	Piedmont Natural Gas Co.	0.65	0.27	0.27	0.40	0.30	0.40	0.51
B++	South Jersey Industries, Inc.	0.65	0.29	0.28	0.41	0.30	0.30	0.54
B++	UGI Corp.	0.65	0.35	0.34	0.45	0.32	0.64	0.45
	Mean	0.67	0.33	0.34	0.45		0.41	0.53
	Median	0.65	0.32	0.33	0.43		0.39	0.53
	Weighted Average				0.46		0.45	0.52
	Relevered Beta based on 44% Debt Capital Structure and Mean Unlevered Beta ³							0.78
	Relevered Beta based on 44% Debt Capital Structure and Weighted Average Unlevered Beta ³							0.77

Sources: Columns a, b, c and g were extracted from Value Line.

Column d was extracted from Zacks.com.

Column e was extracted from Standard and Poor's Stock Reports.

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = $\text{Beta} / [1 + (1 - t_c)(D/E)]$; where D/E is the debt to equity ratio, t_c is the company's most recent tax rate.

³ Relevered Beta = $[\text{Unlevered Beta}] [1 + (1 - t_p)(D/E)]$; where D/E is the debt to equity ratio, t_p is the prospective purchaser's tax rate (assumed to be 40%).

2011 Capitalization Rate Study
Natural Gas Distribution Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Company's Tax Rate	Debt Equity Ratio ¹	Unlevered Beta ²
B+	Atmos Energy Corp.	0.65	0.51	0.52	0.56	0.39	0.82	0.43
B+	Laclede Group, Inc.	0.60	0.07	0.07	0.25	0.33	0.46	0.46
B	NiSource, Inc.	0.85	0.87	0.84	0.85	0.35	1.38	0.45
B	Southwest Gas Corp.	0.75	0.73	0.74	0.74	0.34	0.94	0.46
	Mean	0.71	0.55	0.54	0.60		0.90	0.45
	Median	0.70	0.62	0.63	0.65		0.88	0.45
	Weighted Average				0.73		1.13	0.45
	Relevered Beta based on 50% Debt Capital Structure and Mean Unlevered Beta ³							0.72
	Relevered Beta based on 50% Debt Capital Structure and Weighted Average Unlevered Beta ³							0.72

Sources: Columns a, b, c and g were extracted from Value Line.
Column d was extracted from Zacks.com.
Column e was extracted from Standard and Poor's Stock Reports.

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = $\text{Beta} / [1 + (1 - \text{tc})(\text{D/E})]$; where D/E is the debt to equity ratio, tc is the company's most recent tax rate.

³ Relevered Beta = $[\text{Unlevered Beta}] [1 + (1 - \text{tp})(\text{D/E})]$; where D/E is the debt to equity ratio, tp is the prospective purchaser's tax rate (assumed to be 40%).

**2011 Capitalization Rate Study
Water Utility Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
B++	10.20%	4.50%	10.68%	A2	5.65%	1.70%	5.75%
				A3	5.81%	1.70%	5.91%
				Baa1	5.97%	1.70%	6.07%
				Baa2	6.13%	1.70%	6.24%
				Baa3	6.29%	1.70%	6.40%
				Ba1	6.45%	1.70%	6.56%
				Ba2	6.61%	1.70%	6.72%
				Ba3	6.77%	1.70%	6.89%
				B1	6.93%	1.70%	7.05%
				B2	7.09%	1.70%	7.21%
				B3	7.25%	1.70%	7.38%

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

**2011 Capitalization Rate Study
Water Utility Companies
Summary of Rates of Return**

Common Equity		Preferred Stock			Bonds		
Value Line Rating	Rate of Return ¹	Moody's P/S Yields	Moody's Rating	Rate of Return ²	Moody's Bond Yields	Moody's Rating	Rate of Return ²
B++	10.20%	Aa=N/A	Aa1	5.92%	Aaa=N/A	Aaa2	4.88%
			Aa2	5.97%		Aaa3	5.00%
			Aa3	5.99%		Aa1	5.11%
		A=6.14%	A1	6.07%	Aa=5.23	Aa2	5.23%
			A2	6.14%		Aa3	5.30%
			A3	6.29%		A1	5.38%
		Baa=6.59%	Baa1	6.44%	A=5.45	A2	5.45%
			Baa2	6.59%		A3	5.61%
			Baa3	6.74%		Baa1	5.77%
			Ba1	6.89%	Baa=5.93	Baa2	5.93%
			Ba2	7.04%		Baa3	6.09%
			Ba3	7.19%		Ba1	6.25%
			B1	7.34%		Ba2	6.41%
			B2	7.49%		Ba3	6.57%
			B3	7.64%		B1	6.73%
						B2	6.89%
						B3	7.05%
						NR	7.21%

¹The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of various financial models and pertinent information from different sources. Consideration was also given to the latest CPUC decisions that established rates of return. For 2011, the return on equity and return on rate base for Golden State Water Company are 10.20% and 8.87%, respectively (D.08-01-043).

²The Rates of Return on Preferred Stocks and Bonds were based on the 2010 Moody's "Utility Preferred Stock Yields" and "Utility Bond Yields" reports. Because Moody assigns yields only to groups Aaa, Aa, A and Baa for bonds; and Aa, A, and Baa for preferred stock, staff interpolates the difference between these groups to further refine the ratings.

2011 Capitalization Rate Study
Water Utility Companies
Capital Asset Pricing Model - Ex Ante

Component	Value Line Ratings
	B++, B+, B
Expected Future Return, S&P 500	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Risk Premium	4.85%
Beta ²	0.50
Adjusted Risk Premium	2.44%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Projected Return on Common Equity	6.81%

¹ WSJ.com, January 3, 2011

² The estimated betas were derived from a sample of water companies with similar ratings.

2011 Capitalization Rate Study
Water Utility Companies
Capital Asset Pricing Model - Ex Post

Component	Value Line Ratings
	B++, B+, B
Common Stock Return (1926 - 2010) ¹	11.90%
Less: Income-Long Term Government Bonds (1926 - 2010) ¹	5.20%
Risk Premium	6.70%
Beta ²	0.50
Adjusted Risk Premium	3.36%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.37%
Projected Return on Common Equity	<u>7.73%</u>

¹ Ibbotson Associates Study, 2011

² The estimated betas were derived from a sample of water companies with similar ratings.

³ WSJ.com, January 3, 2011

2011 Capitalization Rate Study
Water Utility Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B++	American States Water Co.	34.47	2.45	2.33	1.04	1.08	3.13%	4.00%	8.00%	7.11%	7.13%	11.13%
B+	Aqua America, Inc.	22.48	0.97	0.90	0.59	0.63	2.80%	6.50%	7.00%	4.31%	9.30%	9.80%
B+	California Water Service Group	37.27	2.20	1.93	1.19	1.20	3.22%	1.00%	6.57%	5.90%	4.22%	9.79%
B	American Water Works Co., Inc.	25.29	1.70	1.57	0.86	0.90	3.56%	16.00%	10.20%	6.72%	19.56%	13.76%
	Mean						3.18%	6.88%	7.94%	6.01%	10.05%	11.12%
	Median						3.18%	5.25%	7.50%	6.31%	8.22%	10.47%
	Weighted Average										14.95%	12.24%

Sources: Columns a, b, d, e, f, g and i were extracted from Value Line.

Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and ThomsonReuters.com.

Column c was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

**2011 Capitalization Rate Study
Water Utility Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
B++	American States Water Co.	9.00%	7.50%	7.50%	8.00%
B+	Aqua America, Inc.	7.50%	6.50%	7.00%	7.00%
B+	California Water Service Group	7.00%	4.00%	8.70%	6.57%
B	American Water Works Co., Inc.	NMF	8.80%	11.60%	10.20%
	Mean	7.83%	6.70%	8.70%	7.94%
	Median	7.50%	7.00%	8.10%	7.50%
	Weighted Average				8.94%

Sources: Columns a, b and c were extracted from Value Line.
Column d was extracted from Zacks.com.
Column e was extracted from ThomsonReuters.com.

2011 Capitalization Rate Study
Water Utility Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Mkt Value Equity (\$million)	L.T. Debt (\$million)	Pfd Stock (\$million)	Common Equity (\$million)	Total Capital (\$million)	L.T. Debt %	Pfd Stock %	Common Equity %
B++	American States Water Co.	18,620,355	34.47	641.84	299.90	0.00	641.84	941.74	31.85%	0.00%	68.15%
B+	Aqua America, Inc.	137,540,249	22.48	3,091.90	1,450.30	0.00	3,091.90	4,542.20	31.93%	0.00%	68.07%
B+	California Water Service Group	20,830,303	37.27	776.35	380.30	0.00	776.35	1,156.65	32.88%	0.00%	67.12%
B	American Water Works Co., Inc.	174,873,174	25.29	4,422.54	5,395.40	23.80	4,422.54	9,841.74	54.82%	0.24%	44.94%
	Mean								37.87%	0.06%	62.07%
	Median								32.40%	0.00%	67.60%
	Weighted Average								45.66%	0.14%	54.20%

Sources: Columns a, b, c, f and g were extracted from Value Line.

Column d was acquired from finance.yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Water Utility Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Company's Tax Rate	Debt Equity Ratio ¹	Unlevered Beta ²
B++	American States Water Co.	0.80	0.44	0.45	0.56	0.42	0.45	0.45
B+	Aqua America, Inc.	0.65	0.21	0.21	0.36	0.40	0.42	0.28
B+	California Water Service Group	0.70	0.34	0.34	0.46	0.40	0.41	0.37
B	American Water Works Co.	0.65	0.33	0.36	0.45	0.39	1.33	0.25
	Mean	0.70	0.33	0.34	0.46		0.65	0.34
	Median	0.68	0.34	0.35	0.45		0.44	0.33
	Weighted Average				0.43		0.96	0.28
	Relevered Beta based on 45% Debt Capital Structure and Mean Unlevered Beta ³							0.50
	Relevered Beta based on 45% Debt Capital Structure and Weighted Average Unlevered Beta ³							0.41

Sources: Columns a, b, c and g were extracted from Value Line.

Column d was extracted from Zacks.com.

Column e was extracted from Standard and Poor's Stock Reports.

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = $\text{Beta} / [1 + (1 - t_c)(D/E)]$; where D/E is the debt to equity ratio, t_c is the company's most recent tax rate.

³ Relevered Beta = $[\text{Unlevered Beta}] [1 + (1 - t_p)(D/E)]$; where D/E is the debt to equity ratio, t_p is the prospective purchaser's tax rate (assumed to be 40%).

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Natural Gas Transmission Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
153	Transwestern Pipeline Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
180	North Baja Pipeline, LLC	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
187	Mojave Pipeline Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
188	Kern River Gas Transmission Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
189	Standard Pacific Gas Line Incorporated	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
190	Tuscarora Gas Transmission Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
196	Questar Southern Trails Pipeline Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%
197	El Paso Natural Gas Company	Not Rated	Not Rated	80%	20%	10.47%	6.03%	9.58%

**2011 Capitalization Rate Study
Natural Gas Transmission Companies
Industry Notes**

- Interstate gas transmission companies are regulated by the Federal Energy Regulatory Commission (FERC).
- Staff relied upon the results of the following models in the development of equity rates:
 1. Discounted Cash Flow
 2. Capital Asset Pricing Model (Ex Post and Ex Ante)

**2011 Capitalization Rate Study
Natural Gas Transmission Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
Not Rated	10.00%	4.50%	10.47%	Not Rated	5.93%	1.70%	6.03%

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

Staff applied a bond rating of Baa3 for the Natural Gas Transmission Companies, which represents the estimated cost of debt for the companies in the study.

2011 Capitalization Rate Study
Natural Gas Transmission Companies
Comparison of Return on Common Equity

Description	2011	2010	Change
E/P Ratio - Mean	5.23%	5.53%	-0.30%
E/P Ratio - Median	4.18%	5.50%	-1.32%
Dividends Yield + Dividends Growth - Mean	5.81%	6.45%	-0.64%
Dividends Yield + Dividends Growth - Median	5.96%	5.64%	0.32%
Dividends Yield + Earnings Growth - Mean	7.94%	8.28%	-0.35%
Dividends Yield + Earnings Growth - Median	6.19%	7.37%	-1.18%
Capital Asset Pricing Model (CAPM) - Ex Ante	9.59%	9.09%	0.50%
Capital Asset Pricing Model (CAPM) - Ex Post	12.07%	12.30%	-0.23%
State-Assessed Properties Division Recommendation:	10.00%	10.25%	-0.25%

The Discounted Cash Flow (DCF) model is computed using data from a sample of gas transmission companies with similar risk and operations.

The information considered by staff includes the results of DCF analysis (Dividends Yield + Dividends Growth and Dividends Yield + Earnings Growth) and the results of the Capital Asset Pricing Model (CAPM) analysis.

2011 Capitalization Rate Study
Natural Gas Transmission Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	2011 Est. Earnings	2010 Earnings	2010 Dividends	2011 Est. Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	Div Yld+ Div Grwh (h+i)	Div Yld+ Engs Grwh (h+j)
A	EOG Resources	91.70	3.00	1.15	0.62	0.66	0.72%	9.50%	10.37%	3.27%	10.22%	11.09%
B++	Cabot Oil & Gas	37.92	0.90	1.10	0.12	0.12	0.32%	0.50%	1.27%	2.37%	0.82%	1.58%
B++	Devon Energy	78.71	6.40	5.66	0.64	0.68	0.86%	4.50%	9.50%	8.13%	5.36%	10.36%
B++	EQT Resources	44.91	1.85	1.54	0.88	0.88	1.96%	4.00%	12.67%	4.12%	5.96%	14.63%
B++	National Fuel Gas	65.78	2.75	2.65	1.36	1.40	2.13%	6.50%	4.07%	4.18%	8.63%	6.19%
B++	Questar Corp.	17.48	1.15	1.40	0.55	0.59	3.38%	6.00%	2.30%	6.58%	9.38%	5.68%
B	El Paso Corp.	13.83	1.10	1.00	0.04	0.04	0.29%	0.00%	5.73%	7.95%	0.29%	6.02%
	Mean						1.38%	4.43%	6.56%	5.23%	5.81%	7.94%
	Median						0.86%	4.50%	5.73%	4.18%	5.96%	6.19%
	Weighted Average										7.13%	11.56%

Sources: Columns a, d, e, f, g and i were extracted from ValueLine.com.

Column c was extracted from Finance.Yahoo.com and represents December 31, 2010 closing stock prices.

Column j is an average of ValueLine.com, Zacks.com and ThomsonReuters.com.

2011 Capitalization Rate Study
Natural Gas Transmission Companies
Long Term Earnings Growth

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A	EOG Resources	3.50%	13.30%	14.30%	10.37%
B++	Cabot Oil & Gas	4.50%	2.30%	-3.00%	1.27%
B++	Devon Energy	9.50%	7.40%	11.60%	9.50%
B++	EQT Resources	12.00%	11.50%	14.50%	12.67%
B++	National Fuel Gas	5.50%	0.00%	6.70%	4.07%
B++	Questar Corp.	NMF	5.00%	-0.40%	2.30%
B	El Paso Corp.	3.00%	5.30%	8.90%	5.73%
	Mean	6.33%	6.40%	7.51%	6.56%
	Median	5.00%	5.30%	8.90%	5.73%
	Weighted Average				10.39%

2011 Capitalization Rate Study
Natural Gas Transmission Company
Capital Asset Pricing Model - Ex Ante

Component	Industry Computation
Expected Future Return, S&P 500	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Risk Premium	4.85%
Beta	1.08
Adjusted Risk Premium	5.22%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Projected Return on Common Equity	<u>9.59%</u>

¹ WSJ.com on January 3, 2011

2011 Capitalization Rate Study
Natural Gas Transmission Companies
Capital Asset Pricing Model - Ex Post

Component	Industry Computation
Common Stock Return (1926 - 2010) ¹	11.90%
Less: Income - Long Term Government Bonds ¹	5.20%
Risk Premium	6.70%
Beta	1.08
Adjusted Risk Premium	7.70%
Risk Free Return 25 - 30 Year Treasury Bonds ²	4.37%
Projected Return on Common Equity	<u>12.07%</u>

¹ Ibbotson Associates Study

² WSJ.com on January 3, 2011

2011 Capitalization Rate Study
Natural Gas Transmission Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line		Value	Zacks	Standard	Average	Company's	Debt	
Rating	Company Name	Line's	Beta	& Poor's	Beta	Tax	Equity	Unlevered
		Beta	Beta	Beta	Beta	Rate	Ratio ¹	Beta ²
A	EOG Resources	1.15	0.91	0.92	0.99	0.45	0.10	0.94
B++	Cabot Oil & Gas	1.30	1.12	1.09	1.17	0.37	0.19	1.05
B++	Devon Energy	1.20	1.04	1.04	1.09	0.36	0.12	1.02
B++	EQT Resources	1.15	0.79	0.80	0.91	0.33	0.17	0.82
B++	National Fuel Gas	0.95	0.86	0.84	0.88	0.38	0.34	0.73
B++	Questar Corp.	NMF	0.79	0.46	0.63	0.37	0.27	0.54
B	El Paso Corp.	1.40	1.10	1.07	1.19	0.35	1.97	0.52
	Mean	1.19	0.94	0.89	0.98		0.45	0.80
	Median	1.18	0.91	0.92	0.99		0.19	0.82
	Weighted				1.01		0.14	0.94
	Relevered Beta based on 20% Debt Capital Structure						0.92 ³	
	Relevered Beta based on 20% Debt Capital Structure and a weighted average Beta						1.08 ³	

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = Corrected Beta/[1+(1-tc)(D/E)]; where D/E is the debt to equity ratio, tc is the company's 2010 tax rate.

³ Rellevered Beta = [Unlevered Beta][1+(1-tp)(D/E)]; where D/E is the debt to equity ratio, tp is a prospective purchaser's tax rate (assumed to be 40%).

**2011 Capitalization Rate Study
Natural Gas Transmission Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l	m	n
Value Line	Bond	P/S		Common	Common	Market Value	L.T.	Pfd	Common	Total Cap.	L.T.	Pfd	Common
Rating	Rating	Rating	Company Name	Stock	Stock Price	Com. Stock	Debt	Stock	Stock	(\$mill)	Debt	Stock	Stock
				Outstanding	12/31/10	(e * f)	(\$millions)	(\$millions)	(\$millions)	(h + i + j)	%	%	%
A	NR	NR	EOG Resources	254,015,745	91.70	23,293.24	3,768.60	0.00	23,293.24	27,061.84	13.90%	0.00%	86.10%
B++	NR	NR	Cabot Oil & Gas	103,973,084	37.92	3,942.66	1,020.00	0.00	3,942.66	4,962.66	20.60%	0.00%	79.40%
B++	NR	NR	Devon Energy	431,900,000	78.71	33,994.85	3,820.00	0.00	33,994.85	37,814.85	10.10%	0.00%	89.90%
B++	NR	NR	EQT Resources	149,143,564	44.91	6,698.04	1,949.20	0.00	6,698.04	8,647.24	22.50%	0.00%	77.50%
B++	NR	NR	National Fuel Gas	82,075,470	65.78	5,398.92	1,049.00	0.00	5,398.92	6,447.92	16.30%	0.00%	83.70%
B++	NR	NR	Questar Corp.	176,055,735	17.48	3,077.45	649.10	0.00	3,077.45	3,726.55	17.40%	0.00%	82.60%
B	NR	NR	El Paso Corp	704,142,559	13.83	9,738.3	13,100.00	0.00	9,738.29	22,838.29	57.40%	0.00%	42.60%
			Mean								22.60%	0.00%	77.40%
			Median								17.40%	0.00%	82.60%
			Weighted Average								22.74%	0.00%	77.26%

Sources: Columns a, e, h and i were extracted from ValueLine.

Column f was extracted from Finance.Yahoo.com and represents December 31, 2010 closing stock prices.

NR - Not Rated

2011 Capitalization Rate Study
Natural Gas Transmission Companies
Bonds - Rate of Return

Utility Bond Yield	Bond Rating				Avg Utility
	Aaa	Aa	A	Baa	
As of December 31, 2010	N/A	5.23%	5.45%	5.93%	5.54%

Source: Moody's Public Utility, Credit Market Trends Service.

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Electric Generation Facilities**

Facility Type	Ratings		Capital Structure		Rates of Return		Basic Cap Rate ³
	Value Line Financial	Moody's Bond	Common Equity	Debt	Common Equity	Debt	
Modern Electric Generation Technology ¹	C++	B2	55%	45%	13.87%	7.83%	11.16%
Older Electric Generation Technology ²	C++	B2	55%	45%	15.97%	8.85%	12.77%

¹ Modern Electric Generation Technology - Generally high efficiency combined-cycle or simple cycle gas turbine electric generation facilities incorporating contemporary generation technologies.

² Older Electric Generation Technology - Generally older steam turbine electric generation facilities that were sold off by vertically integrated electric utilities and for which no replacements, other than for routine maintenance have been made.

³ Staff may adjust the rates stated above if the specific situation of a facility warrants an adjustment to its basic capitalization rate.

**2011 Capitalization Rate Study
Electric Generation Facilities
Industry Notes**

- Staff relied primarily on the Capital Asset Pricing Model (CAPM) and Risk Premium Analysis in the development of equity rates. Consideration was given to both the ex post and ex ante risk premiums.
- The Discounted Cash Flow model was not relied upon because the Merchant Generators in the sample are not currently paying dividends.
- Staff's recommended capital structure of 55% equity and 45% debt provides sufficient coverage of interest and principal payments on debt.
- Staff added a risk premium of 100 basis points to the debt rate for older technology to recognize the market's perception of additional risk present in operating these types of facilities.
- Staff considers the risk associated with older facilities to be greater than that of newer facilities, and has adjusted the beta used in the CAPM calculation upward to reflect this additional risk.
- The following company was added to the 2011 Capitalization Rate Study sample for electric generation companies:

1. GenOn Energy, Inc.

GenOn Energy, Inc. is a newly formed company resulting from the merger of Mirant Corporation and RRI Energy, Inc., two companies included in the 2010 Capitalization Rate Study.

**2011 Capitalization Rate Study
Electric Generation Facilities
Flotation Cost Adjustment**

Facility Type	Equity			Debt		
	Recommended Rate	Flotation Cost in %	Adjusted Rate	Recommended Rate	Flotation Cost in %	Adjusted Rate
Modern Electric Generation Technology ¹	13.25%	4.50%	13.87%	7.70%	1.70%	7.83%
Older Electric Generation Technology ²	15.25%	4.50%	15.97%	8.70%	1.70%	8.85%

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

¹ The Modern Electric Generation Technology Recommended Debt Rate was developed by staff based on the relative rates of the utilities and other pertinent information from various sources.

² The Older Electric Generation Technology Recommended Debt Rate is equal to the Modern Electric Generation Technology Recommended Debt Rate with an additional risk premium of 100 basis points (1.0%).

**2011 Capitalization Rate Study
Electric Generation Facilities
Summary of Rates of Return**

Common Equity		Bonds		
Facility Type	Rate of Return ¹	Moody's Bond Yields	Moody Rating	Rate of Return ²
Modern Electric Generation Technology	13.25%	Aaa=NA	Aaa2	4.88%
			Aaa3	5.00%
			Aa1	5.11%
Older Electric Generation Technology	15.25%	Aa=5.23%	Aa2	5.23%
			Aa3	5.30%
			A1	5.38%
		A=5.45%	A2	5.45%
			A3	5.61%
			Baa1	5.77%
		Baa=5.93%	Baa2	5.93%
			Baa3	6.09%
			Ba1	6.25%
			Ba2	6.41%
			Ba3	6.57%
			B1	6.73%
			B2	6.89%
			B3	7.05%
			Caa1	7.21%

¹ The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of the various financial models and pertinent information from various sources.

² Rates of Return on Bonds are based on Moody's "Utility Bond Yields" as of December 31, 2010. However, because Moody assigns a yield to the groups Aa, A and Baa for bonds, the staff interpolates the difference between these groups in order to achieve a further refinement of the ratings.

2011 Capitalization Rate Study
Electric Generation Facilities
Comparison of Rates of Return on Common Equity

	All Facilities in Study		
	2011	2010	Change
E/P Ratio-Mean	5.93%	7.11%	-1.18%
E/P Ratio-Median	7.40%	7.74%	-0.34%
Div Yld + Div Growth-Mean	3.96%	3.74%	0.22%
Div Yld + Div Growth-Median	3.02%	0.00%	3.02%
Div Yld + Div Growth-Weighted Avg.	6.10%	6.51%	-0.41%
Div Yld + Earn.Growth-Mean	6.16%	7.64%	-1.48%
Div Yld + Earn.Growth-Median	6.64%	7.18%	-0.54%
Div Yld + Earn.Growth-Weighted Avg.	7.34%	8.45%	-1.11%
Merrill Lynch Industry Factor - Required Return IPPs	12.20%	14.80%	-2.60%
ROE% - Yahoo Finance - Utilities	9.94%	4.67%	5.27%
ROE% - Yahoo Finance - Electric Utilities	10.70%	10.10%	0.60%
ROE% - Yahoo Finance - Diversified Utilities	11.30%	13.20%	-1.90%

	Modern Technology	Older Technology
2010 Recommended Rate	14.00%	16.00%
CAPM - Ex Ante	10.19%	11.40%
CAPM - Ex Post	12.41%	14.09%
Risk Premium Analysis ¹	14.53%	15.55%
2011 Recommended Rate	13.25%	15.25%

¹ Risk Premium Analysis estimates the market indicated cost of equity by adding the appropriate "risk premium" to the corresponding cost of debt. "Risk Premium" of 6.70% is determined by comparing the Ibbotson total return on large company stocks to the total return on long-term corporate bonds.

2011 Capitalization Rate Study
Electric Generation Facilities
Capital Asset Pricing Model - Ex Ante

Component	Types of Facilities	
	Modern Technology	Older Technology
Expected Future Return, S&P 500	9.22%	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%	4.37%
Risk Premium	4.85%	4.85%
Beta ²	1.20	1.45
Adjusted Risk Premium	5.82%	7.03%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%	4.37%
Projected Return on Common Equity	10.19%	11.40%

¹ WSJ.com on January 03, 2011

² The betas are based on staff's judgment in conjunction with the results of the Beta Analysis. See explanation contained in the Industry Notes.

2011 Capitalization Rate Study
Electric Generation Facilities
Capital Asset Pricing Model - Ex Post

Component	Types of Facilities	
	Modern Technology	Older Technology
Common Stock Return (1926 - 2010) ¹	11.90%	11.90%
Less: Income - Long Term Government Bonds ¹	5.20%	5.20%
Risk Premium	6.70%	6.70%
Beta ²	1.20	1.45
Adjusted Risk Premium	8.04%	9.72%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.37%	4.37%
Projected Return on Common Equity	12.41%	14.09%

¹ Ibbotson Associates Study

² The betas are based on staff's judgment in conjunction with the results of the Beta Analysis. See explanation contained in the Industry Notes.

³ WSJ.com on January 03, 2011

2011 Capitalization Rate Study
Electric Generation Facilities
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
<u>Merchant Generators</u>												
B+	NRG Energy, Inc.	19.54	1.10	2.40	0.00%	0.00%	0.00%	0.00%	0.83%	5.63%	0.00%	0.83%
C+	GenOn Energy, Inc.	3.81	0.00	0.00	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	5.00%
B	AES Corp.	12.18	1.15	0.95	0.00%	0.00%	0.00%	0.00%	9.57%	9.44%	0.00%	9.57%
C+	Dynegy, Inc.	5.62	0.00	0.00	0.00%	0.00%	0.00%	0.00%	1.27%	0.00%	0.00%	1.27%
<u>Diversified Electric Utilities</u>												
A	Exelon Corp.	41.64	4.00	4.00	2.10	2.10	5.04%	1.00%	0.00%	9.61%	6.04%	5.04%
A	Duke Energy Corp.	17.81	1.35	1.40	0.97	0.99	5.56%	2.50%	3.57%	7.58%	8.06%	9.13%
A	Sempra Energy	52.48	4.20	3.70	1.56	1.68	3.20%	6.50%	5.03%	8.00%	9.70%	8.23%
B++	Xcel Energy Inc.	23.55	1.70	1.60	1.00	1.03	4.37%	3.50%	5.83%	7.22%	7.87%	10.21%
	Mean						2.27%	1.69%	3.89%	5.93%	3.96%	6.16%
	Median						1.60%	0.50%	4.28%	7.40%	3.02%	6.64%
	Weighted Average										6.10%	7.34%
Merrill Lynch Required Return - Independent Power Producers												12.20%

Sources: Columns a, b, d, e, f, g and i were extracted from the Value Line Investment Survey Reports.

Column c was extracted from Zacks.com and represents December 31, 2010 closing stock prices.

Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and ThomsonReuters.com.

2011 Capitalization Rate Study
Electric Generation Facilities
Long Term Earnings Growth

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
	<u>Merchant Generators</u>				
B+	NRG Energy, Inc.	0.00%	0.00%	2.50%	0.83%
C+	GenOn Energy, Inc.	NMF	NMF	5.00%	5.00%
B	AES Corp.	7.50%	9.00%	12.20%	9.57%
C+	Dynegy, Inc.	0.00%	0.00%	3.80%	1.27%
	<u>Diversified Electric Utilities</u>				
A	Exelon Corp.	0.00%	0.00%	0.00%	0.00%
A	Duke Energy Corp.	5.00%	1.30%	4.40%	3.57%
A	Sempra Energy	0.00%	8.50%	6.60%	5.03%
B++	Xcel Energy Inc.	5.50%	5.50%	6.50%	5.83%
	Mean	2.57%	3.47%	5.13%	3.89%
	Median	0.00%	1.30%	4.70%	4.28%
	Weighted Average				3.90%
	Merrill Lynch 5 Year Growth Estimate - Independent Power Producers				4.30%

2011 Capitalization Rate Study
Electric Generation Facilities
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Mkt Value Equity (\$million)	L.T. Debt (\$million)	Pfd Stock (\$million)	Common Equity (\$million)	Total Capital (\$million)	L.T. Debt %	Pfd Stock %	Common Equity %	Debt Equity Ratio
<u>Merchant Generators</u>												
B+	NRG Energy, Inc.	247,197,248	19.54	4,830.23	9,063.00	0.00	4,830.23	13,893.23	65.23%	0.00%	34.77%	1.88
C+	GenOn Energy, Inc.	773,000,000	3.81	2,945.13	4,026.00	0.00	2,945.13	6,971.13	57.75%	0.00%	42.25%	1.37
B	AES Corp.	788,099,808	12.18	9,599.06	17,920.00	0.00	9,599.06	27,519.06	65.12%	0.00%	34.88%	1.87
C+	Dynegy, Inc.	120,894,257	5.62	679.43	4,661.00	0.00	679.43	5,340.43	87.28%	0.00%	12.72%	6.86
Mean									68.85%	0.00%	31.15%	2.99
Median									65.18%	0.00%	34.82%	1.87
Weighted Average									66.40%	0.00%	33.60%	2.30
<u>Diversified Electric Utilities</u>												
A	Exelon Corp.	661,413,334	41.64	27,541.25	12,052.00	87.00	27,541.25	39,680.25	30.37%	0.22%	69.41%	0.44
A	Duke Energy Corp.	1,318,701,302	17.81	23,486.07	17,219.00	0.00	23,486.07	40,705.07	42.30%	0.00%	57.70%	0.73
A	Sempra Energy	247,855,454	52.48	13,007.45	7,562.00	179.00	13,007.45	20,748.45	36.45%	0.86%	62.69%	0.57
B++	Xcel Energy Inc.	459,640,918	23.55	10,824.54	8,409.80	105.00	10,824.54	19,339.34	43.49%	0.54%	55.97%	0.77
Mean									38.15%	0.41%	61.44%	0.63
Median									39.37%	0.38%	60.19%	0.65
Weighted Average									37.55%	0.31%	62.14%	0.61
Value Line Industry Survey Reports - Power Industry									53%	0%	47%	1.13
Value Line Industry Survey Reports - Electric Utility (West) Industry									51%	1%	48%	1.06
Fidelity.com Research Independent Power Producers & Energy Traders												1.34
Fidelity.com Research Electric Utilities												1.08

Sources: Columns a, b, c, f and g were extracted from the Value Line Investment Survey Reports.
Column d was extracted from Zacks.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Electric Generation Facilities
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Company Tax Rate	Debt Equity Ratio ¹	Unlevered Beta ²
<u>Merchant Generators</u>								
B+	NRG Energy, Inc.	1.15	0.81	0.82	0.93	0.40	1.16	0.73
C+	GenOn Energy, Inc.	NMF	1.71	1.04	1.38	0.00	1.37	1.18
B	AES Corp.	1.20	1.42	1.38	1.33	0.30	1.86	0.70
C+	Dynegy, Inc.	1.45	1.13	1.12	1.23	0.00	3.27	0.46
	Mean	1.27	1.27	1.09	1.22	0.18	1.91	0.77
	Median	1.20	1.28	1.08	1.28	0.15		0.72
	Weighted				1.22	0.26		0.75
<u>Diversified Electric Utility</u>								
A	Exelon Corp.	0.85	0.62	0.62	0.70	0.36	0.33	0.58
A	Duke Energy Corp.	0.65	0.44	0.43	0.51	0.33	0.58	0.38
A	Sempra Energy	0.85	0.60	0.58	0.68	0.31	0.43	0.54
B++	Xcel Energy Inc.	0.65	0.45	0.45	0.52	0.37	0.76	0.35
	Mean	0.75	0.53	0.52	0.60	0.34	0.53	0.46
	Median	0.75	0.53	0.52	0.60	0.34		0.46
	Weighted				0.60	0.34		0.47
	Merchant Generators Relevered Beta based on 45% Debt Capital Structure						1.11	³
	Diversified Electric Utilities Relevered Beta based on 40% Debt Capital Structure						0.65	³
	Merrill Lynch Adjusted Beta Independent Power Producers						1.10	

Sources: Columns a, b, c and g were extracted from the Value Line Investment Survey Reports.

Column d was extracted from Zacks.com.

Column e was extracted from Standard and Poor's Stock Reports.

¹ Average Debt to Equity Ratio over the last five years.

² Unlevered Beta = Corrected Beta/[1+(1-tc)(D/E)]; where D/E is the debt to equity ratio, tc is the company's 2010 tax rate.

³ Relevered Beta = [Unlevered Beta][1+(1-tp)(D/E)]; where D/E is the debt to equity ratio, tp is a prospective purchaser's tax rate (assumed to be 40%).

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Telecommunications Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
Local Exchange Companies								
279	Pacific Bell Telephone Company	A+	A2	70%	30%	12.04%	5.54%	10.09%
201	Verizon California, Inc.	A+	A3	70%	30%	12.04%	5.71%	10.14%
284	Citizens Telecommunications Co. of California, Inc.	B	Not Rated	65%	35%	12.30%	6.20%	10.17%
294	SureWest Telephone	C+	Not Rated	65%	35%	12.30%	6.20%	10.17%
	Other Local Exchange Companies	Not Rated	Not Rated	65%	35%	13.35%	6.36%	10.90%
Wireless Companies								
2606	AT&T Mobility LLC ¹	A+	A2	70%	30%	11.52%	5.71%	9.77%
2532	Los Angeles SMSA Ltd., Partnership	A+	A3	70%	30%	11.52%	5.71%	9.77%
2552	Fresno MSA Limited Partnership	A+	A3	70%	30%	11.52%	5.71%	9.77%
2559	Cellco Partnership	A+	A3	70%	30%	11.52%	5.71%	9.77%
2748	T-Mobile West Corporation	B++	Not Rated	65%	35%	12.57%	6.36%	10.39%
2733	MetroPCS California, LLC	B	Not Rated	65%	35%	12.57%	6.36%	10.39%
2720	Sprint Telephony PCS, L.P.	C++	Ba3	65%	35%	14.14%	6.68%	11.53%
	Other Wireless Companies ²	Not Rated	Not Rated	55%	45%	16.23%	8.19%	12.61%
	Wireless Reseller Companies	Not Rated	Not Rated	55%	45%	18.32%	8.70%	13.99%
Interexchange Companies								
2310	AT&T Communications ¹	A+	A2	70%	30%	12.83%	5.71%	10.69%
2274	MCI Communications Services, Inc.	A+	A3	70%	30%	12.83%	5.71%	10.69%
2372	MCI Metro Access Transmission Services, LLC	A+	A3	70%	30%	12.83%	5.71%	10.69%
7522	tw telecom of california l.p.	B	Not Rated	65%	35%	13.61%	8.19%	11.71%
2014	Sprint Communications Company	C++	Ba3	60%	40%	15.71%	6.68%	12.10%
2463	Qwest Communications Company, LLC	C+	Ba3	60%	40%	15.71%	6.68%	12.10%
7761	Level 3 Communications, LLC	C++	Not Rated	60%	40%	15.71%	8.19%	12.70%
	Other Interexchange Carriers	Not Rated	Not Rated	55%	45%	20.42%	8.19%	14.92%
	Other Interexchange Resellers	Not Rated	Not Rated	55%	45%	23.56%	8.70%	16.87%

¹ Staff used A3 Debt Rate as it more closely reflects what a buyer would expect in the open market.

² Includes Radio Telephone and Paging Companies

**2011 Capitalization Rate Study
Telecommunications Companies
Industry Notes**

- Staff conducted a consolidated capitalization rate study for the local exchange, wireless, and interexchange industries due to the increasing convergence of these three industries. Separate capitalization rates were derived for the companies in each of the three industries based on the relative risk experienced by each group of companies within their respective industries.
- Staff relied on the Discounted Cash Flow Model (DCF) and Capital Asset Pricing Model (CAPM ex post and ex ante) in the development of equity rates.
- Atlantic Tele-Network, Inc. was added to the 2011 Capitalization Rate Study sample for telecommunications companies:
- Iowa Telecomm Services was removed from the 2011 Capitalization Rate Study sample as it was acquired by Windstream Corporation in 2010.

2011 Capitalization Rate Study
Telecommunications Companies - Local Exchange
Flotation Cost Adjustment

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A+	11.50%	4.50%	12.04%	Aa2	5.23%	1.70%	5.32%
B++, B+, B	11.75%	4.50%	12.30%	Aa3	5.30%	1.70%	5.40%
C++, C+, C	12.75%	4.50%	13.35%	A1	5.38%	1.70%	5.47%
Other Local Exchange Companies	12.75%	4.50%	13.35%	A2	5.45%	1.70%	5.54%
				A3	5.61%	1.70%	5.71%
				Baa1	5.77%	1.70%	5.87%
				Baa2	5.93%	1.70%	6.03%
				Baa3	6.09%	1.70%	6.20%
				Not Rated	6.25%	1.70%	6.36%

Cost of Capital Adjusted for Flotation Costs =

$$\frac{k_u}{1 - f}$$

Where:

k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

**2011 Capitalization Rate Study
Telecommunications Companies - Wireless
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A+	11.00%	4.50%	11.52%	Aa2	5.23%	1.70%	5.32%
B++, B+	12.00%	4.50%	12.57%	Aa3	5.30%	1.70%	5.40%
B	12.25%	4.50%	12.83%	A1	5.38%	1.70%	5.47%
C++, C+, C	13.50%	4.50%	14.14%	A2	5.45%	1.70%	5.54%
Other Wireless Companies ¹	15.50%	4.50%	16.23%	A3	5.61%	1.70%	5.71%
Wireless Reseller Companies	17.50%	4.50%	18.32%	Baa1	5.77%	1.70%	5.87%
				Baa2	5.93%	1.70%	6.03%
				Baa3	6.09%	1.70%	6.20%
				Ba1	6.25%	1.70%	6.36%
				Ba2	6.41%	1.70%	6.52%
				Ba3	6.57%	1.70%	6.68%
				B1	6.73%	1.70%	6.85%
				B2	6.89%	1.70%	7.01%
				B3	7.05%	1.70%	7.17%
				Not Rated	8.05%	1.70%	8.19%
				Not Rated	8.55%	1.70%	8.70%

Cost of Capital Adjusted for Flotation Costs =
$$\frac{k_u}{1 - f}$$

Where:

k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

¹ Includes Radio Telephone and Paging Companies

**2011 Capitalization Rate Study
Telecommunications Companies - Interexchange
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A+	12.25%	4.50%	12.83%	Aa2	5.23%	1.70%	5.32%
B++, B+, B	13.00%	4.50%	13.61%	Aa3	5.30%	1.70%	5.40%
C++, C+, C	15.00%	4.50%	15.71%	A1	5.38%	1.70%	5.47%
Other Interexchange Carriers	19.50%	4.50%	20.42%	A2	5.45%	1.70%	5.54%
Other Interexchange Resellers	22.50%	4.50%	23.56%	A3	5.61%	1.70%	5.71%
				Baa1	5.77%	1.70%	5.87%
				Baa2	5.93%	1.70%	6.03%
				Baa3	6.09%	1.70%	6.20%
				Ba1	6.25%	1.70%	6.36%
				Ba2	6.41%	1.70%	6.52%
				Ba3	6.57%	1.70%	6.68%
				B1	6.73%	1.70%	6.85%
				B2	6.89%	1.70%	7.01%
				B3	7.05%	1.70%	7.17%
				Not Rated	8.05%	1.70%	8.19%
				Not Rated	8.55%	1.70%	8.70%

Cost of Capital Adjusted for Flotation Costs =

$$\frac{k_u}{1 - f}$$

Where:

k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

2011 Capitalization Rate Study
Telecommunications Companies
Comparison of Return on Common Equity

Description	A+			B++, B+, B			C++, C+, C		
	2011	2010	Change	2011	2010	Change	2011	2010	Change
Discounted Cash Flow Analysis									
E/P Ratio - Mean	7.38%	7.96%	-0.58%	6.24%	7.26%	-1.02%	4.29%	5.23%	-0.94%
E/P Ratio - Median	7.38%	7.96%	-0.58%	6.30%	8.64%	-2.34%	4.73%	4.86%	-0.13%
Dividend Yield + Dividend Growth - Mean	8.83%	9.86%	-1.03%	8.03%	11.73%	-3.70%	6.66%	7.61%	-0.95%
Dividend Yield + Dividend Growth - Median	8.83%	9.86%	-1.03%	7.17%	9.67%	-2.50%	7.75%	7.60%	0.15%
Weighted Average (Div. Yield + Div. Growth)	9.18%	10.20%	-1.02%	5.75%	9.30%	-3.55%	4.55%	7.53%	-2.98%
Dividend Yield + Earnings Growth - Mean	10.98%	10.98%	0.00%	9.97%	11.76%	-1.79%	14.57%	11.44%	3.13%
Dividend Yield + Earnings Growth - Median	10.98%	10.98%	0.00%	8.02%	10.17%	-2.15%	14.70%	11.13%	3.57%
Weighted Average (Div. Yield + Earn. Growth)	11.21%	11.11%	0.10%	6.38%	10.67%	-4.29%	9.96%	8.39%	1.57%
CAPM Analysis									
Ex Ante	7.48%	7.31%	0.17%	8.35%	7.89%	0.46%	9.65%	8.47%	1.18%
Ex Post	8.66%	9.22%	-0.56%	9.87%	10.21%	-0.34%	11.66%	11.20%	0.46%
Recommended Rates									
Local Exchange	11.50%	12.00%	-0.50%	11.75%	12.25%	-0.50%	12.75%	13.25%	-0.50%
Wireless	11.00%	11.50%	-0.50%	12.00%	12.50%	-0.50%	13.50%	14.00%	-0.50%
Interexchange	12.25%	12.75%	-0.50%	13.00%	13.50%	-0.50%	15.00%	15.50%	-0.50%

**2011 Capitalization Rate Study
Telecommunications Companies
Equity Rates**

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DivYld+ DivGrw (h+i)	DivYld+ ErngsGrw (h+j)
A+	AT&T Inc.	29.38	2.45	2.28	1.68	1.72	5.85%	4.50%	6.13%	8.34%	10.35%	11.99%
A+	Verizon Communications	35.78	2.30	2.25	1.90	1.90	5.31%	2.00%	4.67%	6.43%	7.31%	9.98%
	Mean						5.58%	3.25%	5.40%	7.38%	8.83%	10.98%
	Median						5.58%	3.25%	5.40%	7.38%	8.83%	10.98%
	Weighted Average										9.18%	11.21%
B++	Atlantic Tele-Network, Inc.	38.37	4.00	1.35	0.84	0.92	2.40%	9.50%	16.00%	10.42%	11.90%	18.40%
B++	CenturyLink Inc.	46.17	3.20	3.45	2.90	2.90	6.28%	NMF	-0.20%	6.93%	6.28%	6.08%
B++	Shenandoah Telecom	18.73	1.00	0.92	0.33	0.35	1.87%	6.50%	7.00%	5.34%	8.37%	8.87%
B	Frontier Communications	9.73	0.36	0.37	0.88	0.75	7.71%	-4.50%	-2.97%	3.70%	3.21%	4.74%
B	NTELOS Holdings	19.05	1.20	1.15	1.12	1.14	5.98%	8.50%	15.25%	6.30%	14.48%	21.23%
B	Telephone & Data Systems	36.55	1.65	1.50	0.45	0.47	1.29%	3.50%	1.15%	4.51%	4.79%	2.44%
B	Windstream Corp.	13.94	0.90	0.70	1.00	1.00	7.17%	NMF	0.85%	6.46%	7.17%	8.02%
	Mean						4.67%	4.70%	5.30%	6.24%	8.03%	9.97%
	Median						5.98%	6.50%	1.15%	6.30%	7.17%	8.02%
	Weighted Average										5.75%	6.38%

**2011 Capitalization Rate Study
Telecommunications Companies
Equity Rates**

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est. 2011 Earnings	2010 Earnings	2010 Dividends	Est. 2011 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DivYld+ DivGrw (h+i)	DivYld+ ErngsGrw (h+j)
C++	Consolidated Communications	19.30	1.05	0.95	1.55	1.55	8.03%	NMF'	6.67%	5.44%	8.03%	14.70%
C+	Alaska Communications Sys	11.10	0.30	0.05	0.86	0.86	7.75%	NMF'	12.00%	2.70%	7.75%	19.75%
C+	Qwest Communications Int'l.	7.61	0.36	0.27	0.32	0.32	4.20%	NMF'	5.05%	4.73%	4.20%	9.25%
	Mean						6.66%	NMF	7.91%	4.29%	6.66%	14.57%
	Median						7.75%	NMF	6.67%	4.73%	7.75%	14.70%
	Weighted Average										4.55%	9.96%

Sources: Columns a, d, e, f, g, i were extracted from the December 24, 2010 Value Line.

Column c represents closing stock prices as of December 31, 2010, downloaded from Yahoo Finance.

Column j was extracted from the long term earnings growth page of the 2011 capitalization rate study for telecommunications companies.

**2011 Capitalization Rate Study
Telecommunications Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A+	AT&T Inc.	5.50%	6.80%	6.10%	6.13%
A+	Verizon Communications	3.00%	4.40%	6.60%	4.67%
	Mean	4.25%	5.60%	6.35%	5.40%
	Median	4.25%	5.60%	6.35%	5.40%
	Weighted Average				5.57%
B++	Atlantic Tele-Network, Inc.	16.00%	NMF	NMF	16.00%
B++	CenturyLink Inc.	-2.00%	1.00%	0.40%	-0.20%
B++	Shenandoah Telecom	7.00%	NMF	NMF	7.00%
B++	Warwick Valley Telephone	11.50%	NMF	NMF	11.50%
B+	U.S. Cellular	3.50%	3.00%	3.00%	3.17%
B	Frontier Communications	-0.50%	-0.70%	-7.70%	-2.97%
B	MetroPCS Communications	27.50%	20.20%	21.00%	22.90%
B	NTELOS Holdings	5.50%	NMF	25.00%	15.25%
B	Telephone & Data Systems	3.00%	NMF	-0.70%	1.15%
B	tw telecom, inc.	NMF	30.60%	32.10%	31.35%
B	Windstream Corp.	NMF	1.70%	0.00%	0.85%
	Mean	7.94%	9.30%	9.14%	9.64%
	Median	5.50%	2.35%	1.70%	7.00%
	Weighted Average				4.54%

**2011 Capitalization Rate Study
Telecommunications Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
C++	Consolidated Communications	17.00%	1.50%	1.50%	6.67%
C++	General Communication	43.50%	16.00%	16.00%	25.17%
C++	Level 3 Communications	NMF	2.00%	3.00%	2.50%
C++	Sprint Nextel	NMF	6.00%	5.00%	5.50%
C+	Alaska Communications Systems	12.00%	NMF	NMF	12.00%
C+	Cincinnati Bell	6.50%	3.00%	4.30%	4.60%
C+	Qwest Communications Int'l.	NMF	4.10%	6.00%	5.05%
C	Leap Wireless	NMF	19.00%	19.00%	19.00%
	Mean	19.75%	7.37%	7.83%	10.06%
	Median	14.50%	4.10%	5.00%	6.08%
	Weighted Average				6.16%

Sources: Columns a, c were extracted from the December 24, 2010 Value Line.
Column d was extracted from Zacks.com on December 31, 2010.
Column e was extracted from ThomsonReuters.com on December 31, 2010.

**2011 Capitalization Rate Study
Telecommunications Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Market Value Equity (\$million)	Long Term Debt (\$million)	Preferred Stock (\$million)	Common Stock (\$million)	Total Capital (\$million)	L.T. Debt %	Preferred Stock %	Common Stock %
A+	AT&T Inc.	5,910,000,000	29.38	173,635.80	62,540.00	0.00	173,635.80	236,175.80	26.48%	0.00%	73.52%
A+	Verizon Communications	2,826,782,631	35.78	101,142.28	47,360.00	0.00	101,142.28	148,502.28	31.89%	0.00%	68.11%
	Mean								29.19%	0.00%	70.81%
	Median								29.19%	0.00%	70.81%
	Weighted Average								28.57%	0.00%	71.43%
B++	Atlantic Tele-Network, Inc.	15,379,137	38.37	590.10	250.80	0.00	590.10	840.90	29.83%	0.00%	70.17%
B++	CenturyLink Inc.	303,200,000	46.17	13,998.74	7,061.70	0.00	13,998.74	21,060.44	33.53%	0.00%	66.47%
B++	Shenandoah Telecom	23,737,973	18.73	444.61	185.60	0.00	444.61	630.21	29.45%	0.00%	70.55%
B++	Warwick Valley Telephone	5,368,000	13.95	74.88	1.50	0.50	74.88	76.88	1.95%	0.65%	97.40%
B+	U.S. Cellular	85,743,820	49.94	4,282.05	867.80	0.00	4,282.05	5,149.85	16.85%	0.00%	83.15%
B	Frontier Communications	993,874,000	9.73	9,670.39	8,181.60	0.00	9,670.39	17,851.99	45.83%	0.00%	54.17%
B	MetroPCS Communications	354,414,781	12.63	4,476.26	4,314.10	0.00	4,476.26	8,790.36	49.08%	0.00%	50.92%
B	NTELOS Holdings	41,723,944	19.05	794.84	741.40	0.00	794.84	1,536.24	48.26%	0.00%	51.74%
B	Telephone & Data Systems	104,410,257	36.55	3,816.19	1,492.00	0.90	3,816.19	5,309.09	28.10%	0.02%	71.88%
B	tw telecom inc.	151,303,343	17.05	2,579.72	1,335.50	0.00	2,579.72	3,915.22	34.11%	0.00%	65.89%
B	Windstream Corp.	483,698,665	13.94	6,742.76	6,555.80	0.00	6,742.76	13,298.56	49.30%	0.00%	50.70%
	Mean								33.30%	0.06%	66.64%
	Median								33.53%	0.00%	66.47%
	Weighted Average								39.50%	0.00%	60.50%

**2011 Capitalization Rate Study
Telecommunications Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/10	Market Value Equity (\$million)	Long Term Debt (\$million)	Preferred Stock (\$million)	Common Stock (\$million)	Total Capital (\$million)	L.T. Debt %	Preferred Stock %	Common Stock %
C++	Consolidated Communications	29,816,659	19.30	575.46	880.00	0.00	575.46	1,455.46	60.46%	0.00%	39.54%
C++	General Communication	47,518,742	12.66	601.59	859.30	0.00	601.59	1,460.89	58.82%	0.00%	41.18%
C++	Level 3 Communications	1,666,536,000	0.98	1,633.21	6,408.00	0.00	1,633.21	8,041.21	79.69%	0.00%	20.31%
C++	Sprint Nextel	2,987,045,324	4.23	12,635.20	18,540.00	0.00	12,635.20	31,175.20	59.47%	0.00%	40.53%
C+	Alaska Comm. Systems	44,660,484	11.10	495.73	541.60	0.00	495.73	1,037.33	52.21%	0.00%	47.79%
C+	Cincinnati Bell	201,781,187	2.80	564.99	2,458.00	129.40	564.99	3,152.39	77.97%	4.10%	17.92%
C+	SureWest Communications	13,908,000	10.70	148.82	193.40	0.00	148.82	342.22	56.51%	0.00%	43.49%
C+	Qwest Communications Int'l.	1,742,716,118	7.61	13,262.07	10,788.00	0.00	13,262.07	24,050.07	44.86%	0.00%	55.14%
C	Leap Wireless	78,292,882	12.26	959.87	2,726.90	0.00	959.87	3,686.77	73.96%	0.00%	26.04%
Mean									62.66%	0.46%	36.88%
Median									59.47%	0.00%	40.53%
Weighted Average									58.33%	0.17%	41.50%

Sources: Columns a, c, f, g were extracted from the December 24, 2010 Value Line.

Column d represents closing stock prices as of December 31, 2010, downloaded from Yahoo Finance.

**2011 Capitalization Rate Study
Telecommunications Companies
Capital Asset Pricing Model - Ex Ante**

Component	Value Line Rating		
	A+	B++, B+, B	C++, C+, C
Expected Future Return, S&P 500	9.22%	9.22%	9.22%
Less: Risk Free Return, 25-30 Year Treasury Bonds ¹	4.37%	4.37%	4.37%
Ex Ante Risk Premium	4.85%	4.85%	4.85%
Relevered Beta ²	0.64	0.82	1.09
Adjusted Risk Premium	3.11%	3.98%	5.28%
Risk Free Return, 25-30 Year Treasury Bonds ¹	4.37%	4.37%	4.37%
Projected Equity Yield	7.48%	8.35%	9.65%

¹ WSJ.com on January 3, 2011

² The estimated betas were derived from a representative sample of telecommunications companies with similar ratings.

**2011 Capitalization Rate Study
Telecommunications Companies
Capital Asset Pricing Model - Ex Post**

Component	Value Line Rating		
	A+	B++, B+, B	C++, C+, C
Common Stock Return (1926-2010) ¹	11.90%	11.90%	11.90%
Less: Income - Long Term Government Bonds (1926-2010) ¹	5.20%	5.20%	5.20%
Ex Post Risk Premium	6.70%	6.70%	6.70%
Relevered Beta ²	0.64	0.82	1.09
Adjusted Risk Premium	4.29%	5.50%	7.29%
Risk Free Return, 25-30 Year Treasury Bonds ³	4.37%	4.37%	4.37%
Projected Equity Yield	8.66%	9.87%	11.66%

¹ 2011 Ibbotson Associates Study

² The estimated betas were derived from a representative sample of telecommunications companies with similar ratings.

³ WSJ.com on January 3, 2011.

**2011 Capitalization Rate Study
Telecommunications Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Thomson Beta	Average Beta	Company Tax Rate	Debt Equity Ratio	Unlevered Beta ¹
A+	AT&T Inc.	0.75	0.68	0.55	0.66	0.35	0.31	0.55
A+	Verizon Communications	0.70	0.66	0.47	0.61	0.32	0.40	0.48
	Mean	0.73	0.67	0.51	0.64		0.35	0.52
	Median	0.73	0.67	0.51	0.64		0.35	0.52
	Weighted Average				0.64		0.34	0.52
B++	Atlantic Tele-Network, Inc.	1.00	1.06	1.18	1.08	0.45	0.32	0.92
B++	CenturyLink Inc.	0.70	0.78	0.55	0.68	0.39	0.70	0.47
B++	Shenandoah Telecom.	0.80	0.39	1.02	0.74	0.42	0.11	0.69
B++	Warwick Valley Telephone	0.50	0.74	NMF	0.62	0.32	0.07	0.59
B+	U.S. Cellular	1.10	0.96	0.95	1.00	0.40	0.21	0.89
B	Frontier Communications	0.90	0.82	0.53	0.75	0.42	1.31	0.43
B	MetroPCS	0.85	0.38	1.15	0.79	0.34	0.83	0.51
B	NTELOS Holdings	0.85	0.91	0.94	0.90	0.40	0.73	0.63
B	Telephone & Data Systems	0.85	0.81	1.05	0.90	0.34	0.41	0.71
B	tw telecom inc.	1.40	1.45	1.16	1.34	0.20	0.62	0.90
B	Windstream Corp.	0.95	0.96	0.75	0.89	0.39	1.02	0.54
	Mean	0.90	0.84	0.93	0.88		0.58	0.66
	Median	0.85	0.82	0.99	0.89		0.62	0.63
	Weighted Average				0.82		0.85	0.55

¹ Unlevered Beta = Average Beta/[1+(1-tc)(D/E)]; where D/E is the debt to equity ratio, tc is the company's most recent tax rate

**2011 Capitalization Rate Study
Telecommunications Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Thomson Beta	Average Beta	Company Tax Rate	Debt Equity Ratio	Unlevered Beta ¹
C++	Consolidated Communications	0.95	1.12	0.76	0.94	0.36	1.59	0.47
C++	General Communication	1.10	0.99	0.99	1.03	0.48	1.48	0.58
C++	Level 3 Communications	1.25	1.46	NMF	1.36	0.35	1.43	0.70
C++	Sprint Nextel	1.30	1.09	1.24	1.21	0.33	1.68	0.57
C+	Alaska Communications	0.80	0.81	0.88	0.83	0.44	1.06	0.52
C+	Cincinnati Bell	1.10	1.55	1.04	1.23	0.39	3.18	0.42
C+	Qwest Communications Int'l.	1.00	0.80	0.64	0.81	0.39	1.31	0.45
C+	SureWest Communications	0.85	0.11	1.59	0.85	0.41	0.82	0.57
C	Leap Wireless	1.30	1.52	1.16	1.33	0.38	1.43	0.70
	Mean	1.07	1.05	1.04	1.07		1.55	0.55
	Median	1.10	1.09	1.02	1.03		1.43	0.57
	Weighted Average				1.09		1.57	0.54

	A+	B++, B+, B	C++, C+, C
A+: Relevered beta based on 30% debt capital structure	0.65 ²	----	----
Relevered beta based on 30% debt capital structure and a weighted average beta	0.66 ²	----	----
B++, B+, B: Relevered beta based on 35% debt capital structure	----	0.88 ²	----
Relevered beta based on 35% debt capital structure and a weighted average beta	----	0.73 ²	----
C++, C+, C: Relevered beta based on 40% debt capital structure	----	----	0.78 ²
Relevered beta based on 40% debt capital structure and a weighted average beta	----	----	0.76 ²

Sources: Columns a, c, g were extracted from December 24, 2010 Value Line.

Column d was extracted from Zacks.com on December 31, 2010.

Column e was extracted from ThomsonReuters.com on December 31, 2010.

Column h is a 5-year average calculated per data extracted from the capitalization rate studies for lien dates 2006-2010, December 24, 2010 Value Line, and Finance.Yahoo.com.

¹ Unlevered Beta = Average Beta/[1+(1-tc)(D/E)]; where D/E is the debt to equity ratio, tc is the company's most recent tax rate

² Relevered Beta = [Unlevered Beta][1+(1-tp)(D/E)]; where D/E is the debt to equity ratio, tp is the prospective purchaser's tax rate (assumed to be 40%)

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Pipeline Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Equity	Debt	
402	CALNEV Pipe Line LLC	NR-1	NR-b	65%	35%	12.57%	6.08%	10.29%
461	SFPP, L.P.	NR-1	NR-b	65%	35%	12.57%	6.08%	10.29%
468	Shell California Pipeline Company LLC	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
479	Chevron Pipeline Company	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
480	ConocoPhillips Pipe Line Company	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
486	Pacific Pipeline System, LLC	NR-2	NR-b	65%	35%	13.09%	6.08%	10.64%
	Other Pipeline Companies	NR-3	NR-c	65%	35%	14.14%	7.10%	11.67%

**2011 Capitalization Rate Study
Pipeline Companies
Industry Notes**

- Staff relied primarily on the Discounted Cash Flow model in the development of equity rates.

**2011 Capitalization Rate Study
Pipeline Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
NR-1	12.00%	4.50%	12.57%	NR-b	5.98%	1.70%	6.08%
NR-2	12.50%	4.50%	13.09%	NR-c	6.98%	1.70%	7.10%
NR-3	13.50%	4.50%	14.14%				

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

NR-1: Not-Rated-1 pipelines are not directly traded because they are subsidiaries of larger companies. These are larger common carrier pipelines transmitting refined petroleum products.

NR-2: Not-Rated-2 pipelines are not directly traded because they are subsidiaries of larger companies. These are larger common carrier pipelines transmitting crude oil.

NR-3: Not-Rated-3 pipelines are smaller companies transporting petroleum products or crude oil.

NR-b: Although these companies do not have rated debt securities, the rating class "Baa" was chosen to represent these subsidiaries of larger corporations.

NR-c: Issues of this size are not normally rated. An additional increment of 100 basis points (before flotation costs) has been added to the "Baa" rate.

2011 Capitalization Rate Study
Pipeline Companies
Comparison of Return on Common Equity

Description	2011	2010	Change
E/P Ratio - Mean	4.13%	4.65%	-0.52%
E/P Ratio - Median	4.70%	5.01%	-0.31%
Dividend Yield + Dividend Growth - Mean	11.47%	12.96%	-1.49%
Dividend Yield + Dividend Growth - Median	11.93%	13.07%	-1.14%
Dividend Yield + Earnings Growth - Mean	11.93%	12.90%	-0.97%
Dividend Yield + Earnings Growth - Median	11.53%	12.67%	-1.14%
Capital Asset Pricing Model (CAPM) - Ex Ante	7.26%	6.84%	0.42%
Capital Asset Pricing Model (CAPM) - Ex Post	8.36%	8.42%	-0.06%

2011 recommended equity rates:

12.00% for Common Carrier product lines
12.50% for Common Carrier crude oil lines
13.50% for all other pipelines

2011 Capitalization Rate Study
Pipeline Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l
Value Line		Stock	2010	2010	2011	2011	2011	2011	E/P	Div Yld+	Div Yld+
Rating	Company Name	Price	Earnings	Dividends	Est Div	Dividend	Hist. Div	Avg. Erns	Ratio	Div Gwth	Erns Gwth
		12/31/10				Yield	Growth	Growth	(d/c)	(g+h)	(g+i)
B+	Buckeye Partners, L.P.	67.11	3.40	3.80	3.95	5.89%	4.00%	4.33%	5.07%	9.89%	10.22%
B++	Enbridge Energy Partners, L.P.	62.40	3.00	4.05	3.23	5.18%	1.00%	6.43%	4.81%	6.18%	11.61%
B+	Enterprise Product Partners, L. P.	41.72	1.92	2.32	2.44	5.85%	10.00%	5.60%	4.60%	15.85%	11.45%
B+	Kinder Morgan Energy Partners, L.P.	70.43	1.43	4.32	4.56	6.47%	7.50%	7.97%	2.03%	13.97%	14.44%
		Mean					5.63%	6.08%	4.13%	11.47%	11.93%
		Median					5.75%	6.02%	4.70%	11.93%	11.53%
		Weighted Average									12.49%

Sources: Columns a, d, e, f and h were extracted from the Value Line Investment Survey Reports.

Column c was extracted from the Finance.Yahoo.com and represents December 31, 2010 closing stock prices.

Column i is an average of Value Line, Zacks.com, and ThomsonReuters.com.

**2011 Capitalization Rate Study
Pipeline Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
B+	Buckeye Partners, L.P.	6.50%	4.00%	8.80%	6.43%
B++	Enbridge Energy Partners, L.P.	8.00%	2.50%	2.50%	4.33%
B+	Enterprise Product Partners, L. P.	12.50%	5.50%	5.90%	7.97%
B+	Kinder Morgan Energy Partners, L.P.	9.50%	3.50%	3.80%	5.60%
	Mean	9.13%	3.88%	5.25%	6.08%
	Median	8.75%	3.75%	4.85%	6.02%
	Weighted Average				6.51%

2011 Capitalization Rate Study
Pipeline Companies
Capital Asset Pricing Model - Ex Ante

Component	Industry Computation
Expected Future Return, S&P 500	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Risk Premium	4.85%
Beta ²	0.60
Adjusted Risk Premium	2.89%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Projected Return on Common Equity	7.26%

¹ WSJ.com on January 3, 2011

² Weighted average using betas from Value Line, Zacks.com, and Standard & Poor's for a representative sample of pipeline companies.

2011 Capitalization Rate Study
Pipeline Companies
Capital Asset Pricing Model - Ex Post

Component	Industry Computation
Common Stock Return (1926 - 2010) ¹	11.90%
Less: Income - Long Term Government Bonds ¹	5.20%
Risk Premium	6.70%
Beta ²	0.60
Adjusted Risk Premium	3.99%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.37%
Projected Return on Common Equity	8.36%

¹ Ibbotson Associates Study

² Weighted average using betas from Value Line, Zacks.com, and Standard & Poor's for a representative sample of pipeline companies.

³ WSJ.com on January 3, 2011

2011 Capitalization Rate Study
Pipeline Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line		Value Line	Zacks	Standard & Poor's	Average	Tax	Debt Equity	Unlevered
Rating	Company Name	Beta	Beta	Beta	Beta	Rate	Ratio	Beta ¹
B+	Buckeye Partners, L.P.	0.85	0.27	0.28	0.47	0.40	0.41	0.37
B++	Enbridge Energy Partners, L.P.	0.90	0.62	0.62	0.71	0.40	0.69	0.50
B+	Enterprise Product Partners, L. P.	0.85	0.58	0.57	0.67	0.40	0.48	0.52
B+	Kinder Morgan Energy Partners, L.P.	0.75	0.32	0.30	0.46	0.40	0.47	0.36
	Mean	0.84	0.45	0.44	0.58	0.40	0.51	0.44
	Median	0.85	0.45	0.44	0.57	0.40	0.47	0.44
	Weighted Average				0.59		0.50	0.45
	Relevered beta based on 35% Debt Capital Structure							0.58 ²
	Relevered beta based on 35% Debt Capital Structure and a weighted average beta							0.60 ²

¹ Unlevered Beta = Beta/[1+(1-t)(D/E)]; where D/E is the debt to equity ratio, t is the tax rate (assumed to be 40%)

² Relevered Beta = [Unlevered Beta][1+(1-t)(D/E)]; where D/E is the debt to equity ratio, t is the tax rate (assumed to be 40%)

2011 Capitalization Rate Study
Pipeline Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Moody Bond Rating	Company Name	Partnership Units Outstanding (000)	Unit Price 12/31/10	Market Value Equity (000)	Market Value Preferred (000)	Long Term Debt (000)	Total Capital (000)	Long Term Debt %	Preferred %	Equity %
B+	NR	Buckeye Partners, L.P.	51,770	67.11	3,474,285	0	1,441,300	4,915,585	29.32%	0.00%	70.68%
B++	NR	Enbridge Energy Partners, L.P.	119,669	62.40	7,467,346	0	5,178,100	12,645,446	40.95%	0.00%	59.05%
B+	NR	Enterprise Product Partners, L. P.	637,951	41.72	26,615,307	0	12,704,800	39,320,107	32.31%	0.00%	67.69%
B+	NR	Kinder Morgan Energy Partners, L.P.	312,730	70.43	22,025,574	0	10,278,600	32,304,174	31.82%	0.00%	68.18%
		Total			59,582,512	0	29,602,800	89,185,312			
		Mean							33.60%	0.00%	66.40%
		Median							32.06%	0.00%	67.94%
		Weighted Average							33.19%	0.00%	66.81%

Recommended Capital Structure for Common Carrier Pipelines for lien date January 1, 2011:

Debt	-	35%
Equity	-	65%

Sources: . Columns a, d, g and h were extracted from the Value Line Investment Survey Reports
Column e was extracted from the Finance.Yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Pipeline Companies
Debt Yield Rate

Average of Industrial and Public Utility Bond Yield:

Aa	Industrial/Utility Average	5.15%	
A	Industrial/Utility Average	5.40%	
		5.15%	Aa
		5.40%	A
Baa	Industrial/Utility Average	5.98%	
	Recommended	5.98%	Baa/Ba

Bond Rating	Industrial	Public Utility	Average
Aaa	4.88%	N/A	4.88%
Aa	5.07%	5.23%	5.15%
A	5.35%	5.45%	5.40%
Baa	6.02%	5.93%	5.98%

Source: Moody's Public Utility, Credit Market Trends Service.

**California State Board of Equalization
State-Assessed Properties Division
2011 Capitalization Rate Study
Railroads**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
804	BNSF Railway Company	A	Baa2	80%	20%	13.61%	6.08%	12.11%
843	Union Pacific Railroad Company	A	Baa2	80%	20%	13.61%	6.08%	12.11%
802	Central Oregon & Pacific Railroad	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
810	California Northern Railroad	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
813	Pacific Harbor Lines	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
850	Modesto & Empire Traction Company	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
865	San Diego & Imperial Valley Railroad Co. Inc.	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
882	Trona Railway Co.	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
897	San Joaquin Valley Railroad Company	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
899	Arizona & California Railroad	NR-1	NR-1	60%	40%	15.71%	7.60%	12.47%
	Other Railroad Companies	NR-2	NR-2	60%	40%	15.97%	8.62%	13.03%

**2011 Capitalization Rate Study
Railroad Companies
Industry Notes**

- Staff relied upon the results of the following models in the development of equity rates:
 1. Discounted Cash Flow
 2. Capital Asset Pricing Model (Ex Post and Ex Ante)

- BNSF Railway Company was removed from the 2011 Capitalization Rate Study sample. The capital stock was acquired by Berkshire Hathaway Inc. in 2010 and is no longer publicly traded.

**2011 Capitalization Rate Study
Railroad Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
B++, B+	13.00%	4.50%	13.61%	Baa2	5.98%	1.70%	6.08%
NR-1	15.00%	4.50%	15.71%	NR-1 ¹	7.48%	1.70%	7.60%
NR-2	15.25%	4.50%	15.97%	NR-2 ²	8.48%	1.70%	8.62%

$$\text{Cost of Capital Adjusted for Flotation Costs} = \frac{k_u}{1 - f}$$

Where: k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

¹ NR-1: Represent short line railroad companies with stable historical income. An additional 150 basis points (1.5%) were added to the Baa2 bond rate to represent the additional risk premium.

² NR-2: Represent short line railroad companies without stable historical income patterns. An additional 250 basis points (2.5%) were added to the Baa2 bond rate to represent the additional risk premium.

2011 Capitalization Rate Study
Railroad Companies
Comparison of Return on Common Equity

Description	2011	2010	Change
E/P Ratio - Mean	7.16%	6.20%	0.95%
E/P Ratio - Median	7.27%	6.29%	0.98%
Dividend Yield + Dividend Growth - Mean	11.17%	12.58%	-1.41%
Dividend Yield + Dividend Growth - Median	13.14%	13.50%	-0.36%
Dividend Yield + Earnings Growth - Mean	16.06%	13.16%	2.90%
Dividend Yield + Earnings Growth - Median	16.59%	13.75%	2.85%
Capital Asset Pricing Model - Ex post	11.97%	12.30%	-0.33%
Capital Asset Pricing Model - Ex ante	9.87%	9.12%	0.76%
State-Assessed Properties Division Recommendation:	13.00%	13.00%	0.00%

2011 Capitalization Rate Study
Railroad Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/10	Est Erns Value Line 2011	Earnings 2010	Dividends 2010	Est Div 2011	Div Yield 2011 (g/c)	ValueLine Dividend Est Gwth	Average Est Erns Gwth	E/P Ratio (d/c)	Div Yld + Dv Gwth (h+i)	Div Yld + Erns Gwth (h+j)

Class 1 Railroads:

A	Union Pacific Corp.	92.65	6.30	5.35	1.31	1.52	1.64%	11.50%	15.83%	6.80%	13.14%	17.47%
B++	CSX Corp.	64.64	4.70	4.05	0.98	1.06	1.64%	12.50%	12.47%	7.27%	14.14%	14.11%
B+	Norfolk Southern Corp.	62.84	4.65	4.05	1.40	1.40	2.23%	4.00%	14.37%	7.40%	6.23%	16.59%
Mean							1.84%	9.33%	14.22%	7.16%	11.17%	16.06%
Median							1.64%	11.50%	14.37%	7.27%	13.14%	16.59%
Weighted Average											11.65%	16.33%

Sources: Columns a, d, e, f, g and i were extracted from the Value Line Investment Survey Reports

Column c was extracted from Finance.Yahoo.com and represents December 31, 2010, closing stock prices.

Column j is an average of Value Line, Zacks.com and ThomsonReuters.com.

**2011 Capitalization Rate Study
Railroad Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line		Value			
Rating	Company Name	Line	Zacks	Thomson	Average
Class 1 Railroads:					
A	Union Pacific Corp.	14.00%	18.00%	15.50%	15.83%
B++	CSX Corp.	12.50%	11.50%	13.40%	12.47%
B+	Norfolk Southern Corp.	10.00%	20.40%	12.70%	14.37%
	Mean	12.17%	16.63%	13.87%	14.22%
	Median	12.50%	18.00%	13.40%	14.37%
	Weighted Average				14.54%

2011 Capitalization Rate Study
Railroad Companies
Capital Asset Pricing Model - Ex Ante

Component	Industry Computation
Expected Future Return, S&P 500	9.22%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Risk Premium	4.85%
Beta	1.13
Adjusted Risk Premium	5.50%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.37%
Projected Return on Common Equity	9.87%

¹ WSJ.com on January 3, 2011

2011 Capitalization Rate Study
Railroad Companies
Capital Asset Pricing Model - Ex Post

Component	Industry Computation
Common Stock Return (1926 - 2010) ¹	11.90%
Less: Income - Long Term Government Bonds ¹	5.20%
Risk Premium	6.70%
Beta	1.13
Adjusted Risk Premium	7.60%
Risk Free Return 25 - 30 Year Treasury Bonds ²	4.37%
Projected Return on Common Equity	11.97%

¹ Ibbotson Associates Study

² WSJ.com on January 3, 2011

2011 Capitalization Rate Study
Railroad Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zack's Beta	Thomson Beta	Average Beta	Company's Tax Rate	Debt Equity Ratio ¹	Unlevered Beta ²
Class 1 Railroads:								
A	Union Pacific Corp.	1.15	1.16	1.13	1.15	0.39	0.27	0.99
B++	CSX Corp.	1.25	1.21	1.33	1.26	0.39	0.39	1.02
B+	Norfolk Southern Corp.	1.15	1.06	1.22	1.14	0.39	0.32	0.96
	Mean	1.18	1.14	1.23	1.18		0.33	0.99
	Median	1.15	1.16	1.22	1.15		0.32	0.99
	Weighted Average				1.18		0.31	0.99
	Relevered Beta based on 20% Debt Capital Structure					1.13 ³		
	Relevered Beta based on 20% Debt Capital Structure and a weighted average Beta					1.13 ³		
Non-Class 1 Railroads:								
B+	Genesee and Wyoming, Inc.	1.30	1.27	1.38	1.32	0.37	0.24	1.14
	Mean	1.30	1.27	1.38	1.32		0.24	1.14
	Median	1.30	1.27	1.38	1.32		0.24	1.14
	Weighted Average				1.32		0.24	1.14
	Relevered Beta based on 40% Debt Capital Structure					1.60 ³		
	Relevered Beta based on 40% Debt Capital Structure and a weighted average Beta					1.60 ³		

¹ Average Debt to Equity Ratio over the last five years

² Unlevered Beta = Corrected Beta/[1+(1-tc)(D/E)]; where D/E is the debt to equity ratio, tc is the company's 2010 tax rate.

³ Relevered Beta = [Unlevered Beta][1+(1-tp)(D/E)]; where D/E is the debt to equity ratio, tp is a prospective purchaser's tax rate (assumed to be 40%).

2011 Capitalization Rate Study
Railroad Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j
Value Line Rating	Moody Bond Rating	Company Name	Common Stock Outstanding (000)	Common Stock Price 12/31/10	Market Value Equity (000)	Long Term Debt (000)	Total Capital (000)	Long Term Debt %	Common Equity %
Class 1 Railroads:									
A	NR	Union Pacific Corp.	493,149	92.65	45,690,255	9,060,000	54,750,255	16.55%	83.45%
B++	NR	CSX Corp.	374,185	64.64	24,187,318	7,297,000	31,484,318	23.18%	76.82%
B+	NR	Norfolk Southern Corp.	363,372	62.84	22,834,296	6,574,000	29,408,296	22.35%	77.65%
		Total					<u><u>115,642,870</u></u>		
						Mean		20.69%	79.31%
						Median		22.35%	77.65%
						Weighted Average		19.83%	80.17%
Non-Class 1 Railroads:									
B+	NR	Genesee and Wyoming, Inc.	41,467	53.00	2,197,751	402,000	2,599,751	15.46%	84.54%
		Total					<u><u>2,599,751</u></u>		
						Mean		15.46%	84.54%
						Median		15.46%	84.54%
						Weighted Average		15.46%	84.54%

Recommended Capital Structures for lien date January 1, 2011			Equity	Debt
Class 1 Railroads:			80%	20%
Non-Class 1 Railroads:			60%	40%

Sources: . Columns a, d, and g were extracted from the Value Line Investment Survey Reports.
Column e was extracted from the Finance.Yahoo.com and represents December 31, 2010 closing stock prices.

2011 Capitalization Rate Study
Railroad Companies
Interpolation of Railroad Bond Yield

Yield Increment from Moody Average Bond Ratings			
a	b	c	d
Moody Average Rating	Moody Average Bond Yield	Number of Increments	Incremental Increase (b/c)

Aa = Aa2	5.15%		
A = A2	<u>5.40%</u>		
Difference	<u><u>0.25%</u></u>	3	0.08%
A = A2	5.40%		
Baa = Baa2	<u>5.98%</u>		
Difference	<u><u>0.58%</u></u>	3	0.19%

Interpolated Railroad Bond Yield			
a	b	c	d
Moody Average Rating	Moody Average Bond Yield	Incremental Increase	Interpolated Bond Yield
Aa2	5.150%		5.15%
Aa3		0.08%	5.23%
A1		0.08%	5.32%
A2	5.400%		5.40%
A3		0.19%	5.59%
Baa1		0.19%	5.78%
Baa2	5.975%		5.98%
Baa3		0.19%	6.17%

2011 Capitalization Rate Study
Railroad Companies
Debt Yield Rates

Bond Rating	Industrial	Public Utility	Average
Aaa	4.88%	N/A	4.88%
Aa	5.07%	5.23%	5.15%
A	5.35%	5.45%	5.40%
Baa	6.02%	5.93%	5.98%

Source: Moody's Daily Long-Term Corporate Bond Yield Averages as of December 31, 2010.